Institute for Public Policy and Governance

# Evaluation: Pinery Fire Recovery

Institute for Public Policy and Governance

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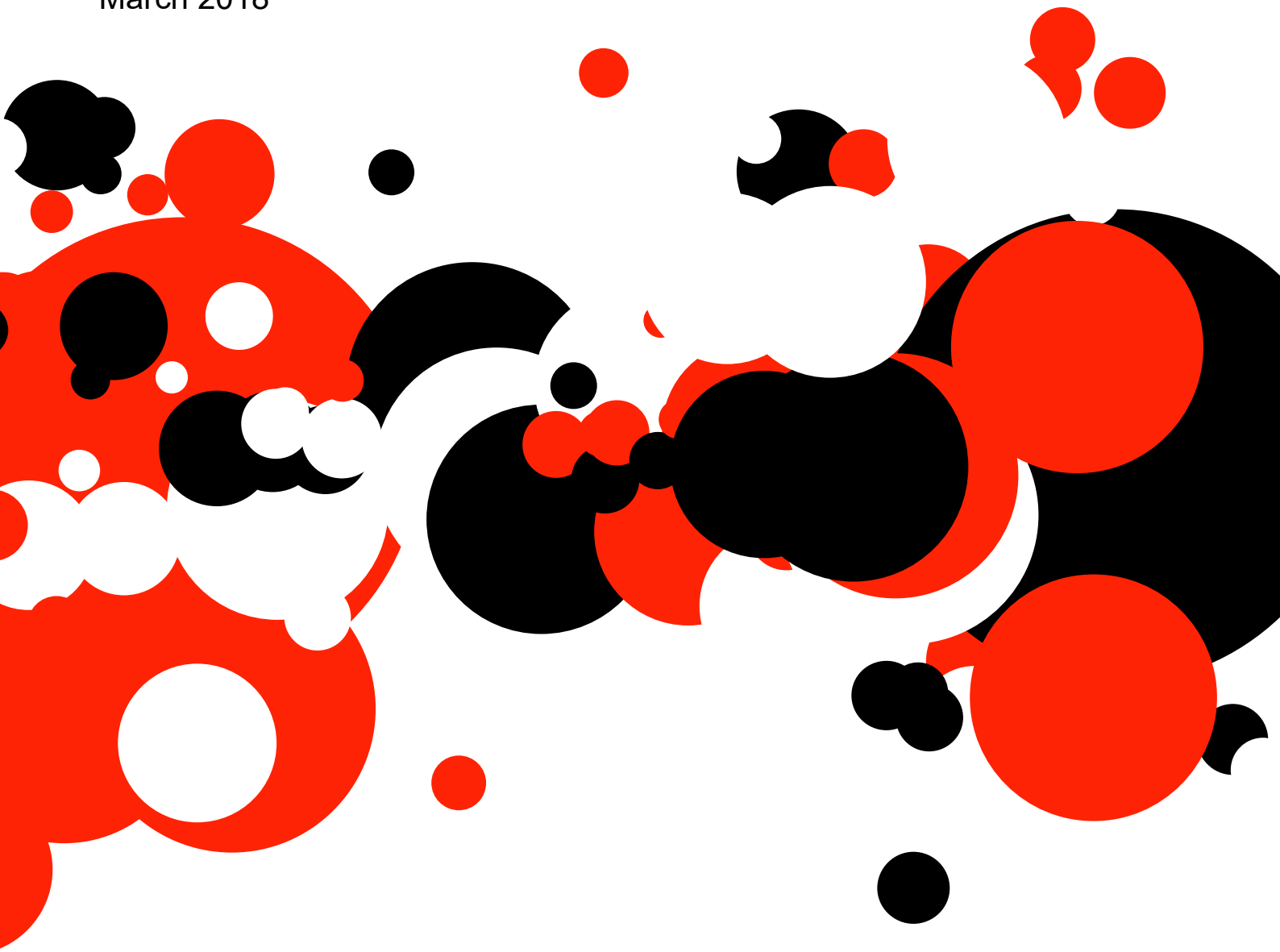

## Citing this report

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# Acknowledgements

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Finally, we thank Ronnie Faggotter and Sue McCormick from the South Australia Department for Communities and Social Inclusion, State Recovery Office for their valuable partnership in this evaluation.

# List of Abbreviations

| | |
|---|---|
| ANZEMC RSC | Australia-New Zealand Emergency Management Committee Disaster Recovery Sub-Committee |
| ANZSOG | Australia and New Zealand School of Government |
| CFS | Country Fire Service |
| COAG | Council of Australian Governments |
| DCSI | Department for Communities and Social Inclusion |
| DECD | Department for Education and Child Development |
| DEWNR | Department of Environment, Water and Natural Resources |
| DPTI | Department of Planning, Transport and Infrastructure |
| DSD | Department of State Development |
| F2F | Face-to-face |
| ICA | Insurance Council of Australia |
| IDI | In-depth interview |
| LFS | State Logistics Functional Service |
| LRC | Local Recovery Committee |
| NEMP | National Emergency Management Projects |
| NRM | Natural Resources Management |
| PIRSA | Department of Primary Industries and Regions, South Australia |
| SAFECOM | South Australia Fire and Emergency Services Commission |
| SEMC | State Emergency Management Committee |
| SEMP | State Emergency Management Plan |
| SERF | State Emergency Relief Fund |
| SRC | State Recovery Committee |
| SRO | State Recovery Office |
| UTS:IPPG | University of Technology Sydney: Institute for Public Policy and Governance |

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# Executive Summary

## Background

The Pinery fire was a catastrophic bushfire that began on November 25, 2015. It caused major damage to 82,600 hectares (210,000 acres) of scrub and farmland in the council areas of Light, Wakefield, Clare and Gilbert Valleys and Adelaide Plains.

During the major run of the Pinery fire two people died, while 37 people were hospitalised, 5 with severe injuries.

The Pinery fire destroyed 97 houses, and damaged a further 49. It caused significant damage or destruction to sheds, outbuildings, farm equipment and vehicles. More than 18,000 sheep, 54,000 poultry and 600 other livestock were lost, along with the destruction of an estimated $30 million worth of fodder and unharvested grains.

The formal recovery operation began immediately and was in place for 17 months. It was dismantled progressively from 30 April to 30 June 2017. The State Recovery Office (SRO), located in the Department for Community and Social Inclusion (DCSI), is accountable for coordinating recovery from a disaster or significant emergency, and coordinates state level recovery functions, supports local recovery efforts, and provides a management and administrative service to the State Recovery Committee.

## Purpose

The purpose of this evaluation is to determine how recovery activities related to the Pinery fire contributed to recovery in the built, economic, social and natural environment. To assess the effectiveness, implementation, and governance of the Pinery fire recovery, UTS collaboratively developed an evaluation framework with the SRO based on the overarching principles, outcomes and indicators of success outlined in the Draft National Monitoring and Evaluation (M&E) Framework. The Draft National M&E Framework developed by the Australia and New Zealand School of Government (ANZSOG) provides a consistent approach to evaluating any individual disaster recovery program.

Along with providing an assessment of the success of the Pinery fire recovery, the evaluation also provides direction to the ongoing development of the Draft National M&E Framework by testing its appropriateness and utility to support external evaluations by applying it to the evaluation of the Pinery fire recovery.

## Methodology

The following method was used to assess the effectiveness, implementation, and governance of the Pinery fire recovery.

- Development of a Pinery-specific evaluation framework and program logic based on the Draft National M&E Framework
- Review of available records and reports to answer key evaluation questions
- Qualitative interviews with stakeholders and community members
- An online survey of community members
- A collaborative outcomes workshop with the State Recovery Committee to validate findings, and prioritise recommendations.

The evaluation was conducted between August 2017 and December 2017.

## Evaluation findings

The Pinery fire recovery was supported by a range of activities and initiatives with objectives and planned outcomes across four domains that underpin successful recovery: restoration and rebuilding of infrastructure and built infrastructure; restoration of psychosocial and physical wellbeing in the community; recovery of the local economy; and restoration of the natural environment.

Overall, there are high levels of satisfaction among both stakeholders and community members about the progress of recovery in each of these four domains.

### Governance

Governance was a key strength of the overall recovery. Strong leadership from the SRO brought together the recovery effort, which was guided by a clear plan, and a common understanding of recovery goals and purpose.

However, not all agencies with a role in disaster recovery have robust and comprehensive plans, capacity, or resources for implementing recovery. Few mechanisms are in place for assessing recovery outcomes.

Effective support from NGOs and government agencies across the four domains, and frequent

consultations with stakeholders and the community enabled the recovery process to be community-driven. However, there is an opportunity to promote improved coordination between NGOs and government agencies even further.

Concerns were raised about the transparency and accountability around spontaneous fundraising.

### Built environment recovery

There is a high level of satisfaction with the support provided to manage ongoing rebuilding to affected community members, businesses and primary producers. Some community members were concerned that they received inaccurate or conflicting information on issues such as debris management.

Data limitations have meant there is insufficient evidence to assess whether recovery activities have facilitated enhanced disaster management and resilience planning, such as increased uptake of safety features in homes, commercial properties and farms.

### Economic recovery

Individual economic recovery has largely been achieved, and most businesses/primary producers feel adequately restored from the financial losses that they suffered.

There is a lack of evidence to determine whether strategies to encourage community and businesses to take up appropriate insurance and undertake business continuity management have had a measureable impact.

### Social recovery

The evaluation found that community members are far more likely to feel satisfied with their overall recovery if they feel their emotional recovery is on track.

Psychosocial recovery greatly benefited from community-led support. Community members were largely satisfied with the psychosocial support received from several NGO and government agencies, as well as local community support groups. However, the evaluation found there are opportunities to improve the coordination of evidence-based mental health support throughout recovery. There is also demand for continued assistance to support ongoing psychological recovery.

Low mental health literacy and high stigma in the communities affected by the Pinery fire meant that community members did not always seek appropriate support.

The coincidence of the Pinery fire with the end of the school year also affected the timeliness of support to children and young people.

### Natural environment recovery

The evaluation findings suggest low knowledge of health risks associated with exposure to asbestos, how to identify asbestos and appropriately manage it. It was reported that community members received conflicting information about asbestos management during the recovery. The costs associated with asbestos disposal may have also been a barrier to appropriately dealing with asbestos during clean-up and rebuilding post-fire.

There is a tension between the regulations around tree removal and the emotional and economic needs of community members, as burnt trees are perceived as a trigger for emotional trauma, an environmental hazard, and a financial burden for primary producers.

## Recommendations

The following recommendations provide a range of opportunities to learn from the Pinery fire recovery and guide future recovery efforts in South Australia.

#### Governance

**Rec 1.** Build capacity across government in strategic recovery planning, incorporating the National Monitoring and Evaluation Framework.

**Rec 2.** Develop tools and resources that can be adapted to any recovery effort to help fast-track the initial stages and to ensure a focus on outcomes is established.

**Rec 3.** Develop a minimum data set for each domain to ensure the availability of appropriate data to measure outcomes and to embed monitoring and evaluation processes.

**Rec 4.** Support NGOs to strengthen workforce capacity for recovery planning and to develop measures that ensure programs are outcome focused and based on clear identification of recovery needs.

**Rec 5.** Work with the NGO sector to identify opportunities to improve the management of donated funds.

**Rec 6.** Review the transition process back to regular services to ensure the sustainability of community development programs and community recovery.

**Rec 7.** Support local government sector in the development of council recovery plans so that they can provide quick and effective support to their communities following a disaster.

### Built environment recovery

**Rec 8.** Improve the timing, consistency and accuracy of messaging about rebuilding regulations.

### Economic recovery

**Rec 9.** Explore strategies to ensure the community, businesses and primary producers have appropriate levels of insurance to aid recovery from disasters.

**Rec 10.** Explore strategies to encourage community, businesses and primary producers to undertake appropriate business continuity and disaster management planning.

### Social recovery

**Rec 11.** Embed evidence-based, outcome focused community led mechanisms into local recovery plans. e.g. The Pinery Fires Wellbeing and Resilience Project in collaboration with SAHMRI; Men's Watch.

**Rec 12.** Embed a contingency for supporting children and young people in the event of disasters occurring outside of the school term.

### Natural environment recovery

**Rec 13.** Disseminate accurate information on asbestos safety and management (including roles and responsibilities) targeted for community, state and local government staff.

**Rec 14.** Clarify and communicate the regulations that apply to managing fire-damaged trees.

# 1 Introduction

Evaluations of disaster recovery efforts to date have been unsystematic and sporadic. When they have been conducted, they have tended to focus on the process of disaster recovery, rather than outcomes, and have not been consistent in their broad approaches.

In response to recommendation 6(a) of the Review of Commonwealth and State/Territory Relief and Recovery Payments: Report to COAG/SCPEM from the National Emergency Management Committee Recovery Sub-Committee (2012), which was endorsed by COAG in 2012, a Draft National Monitoring and Evaluation (M&E) Framework has been developed by the Australia and New Zealand School of Government (ANZSOG). The Framework provides overall guidance and context for the evaluation of disaster recovery programs to allow assessment of the efficacy of post disaster recovery assistance.

The Draft National M&E Framework provides a basis for a consistent approach in the evaluation of any individual disaster recovery program. It is hoped that this will allow the lessons learned from each program evaluation to contribute to an evidence base that will improve subsequent disaster recovery programs.

To help ensure the Draft National M&E Framework is fit-for-purpose, UTS tested its appropriateness and utility to support external evaluations by applying it an evaluation of the Pinery fire recovery.

The 2015 Pinery fire was a catastrophic bushfire that began on 25 November, was contained on 27 November, and controlled on 1 December 2015. The fire primarily affected the lower Mid North and west Barossa Valley regions immediately north of Gawler South Australia. At least 86,000 hectares (210,000 acres) of scrub and farmland in the council areas of Light, Wakefield, Clare and Gilbert Valleys, and Adelaide Plains were burned during its duration.

On 25 November, during the major run of the Pinery fire, two people died, 90 people received medical attention while 37 people were hospitalised.

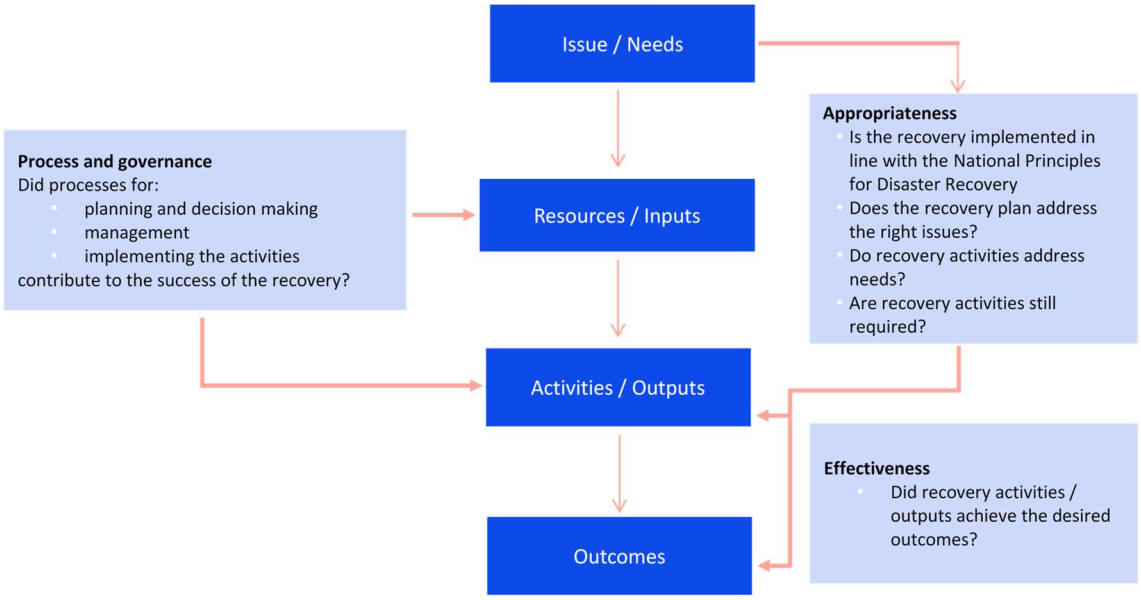
The Pinery fire destroyed 97 houses, and damaged a further 49. It caused significant damage or destruction to sheds, outbuildings, farm equipment and vehicles. More than 18,000 sheep, 54,000 poultry and 600 other livestock were lost, and an estimated $30 million worth of fodder and unharvested grains were destroyed. Communities affected by the fire included Daveyston, Barabba, Freeling, Greenock, Hamley Bridge, Kapunda, Magdala, Mallala, Nain, Nuriootpa, Owen, Pinery, Pinkerton Plains, Redbanks, Roseworthy, Stockport, Tarlee, Templers, Wasleys and Woolsheds.

UTS evaluated the Pinery fire recovery between August 2017 and December 2017 to assess its effectiveness, implementation and governance. UTS developed a monitoring and evaluation framework for the evaluation of the Pinery fire based on the overarching principles, outcomes and indicators of success outlined in the Draft National M&E Framework.

The evaluation therefore provides direction to the ongoing development of the Draft National M&E Framework, and supports the Government of South Australia Department for Communities and Social Inclusion (DCSI), State Recovery Office (SRO) to assess the success of the Pinery fire recovery effort, and guide any future decisions about the way recovery is implemented and evaluated across South Australia.

The Draft National M&E Framework presents a broad set of key evaluation questions that should be addressed in specific disaster recovery evaluations that fall under the broad areas outlined in Figure 1.

**Figure 1. Key evaluation question areas from the Draft National M&E Framework**




UTS considered these areas, as well as the specific desired outcomes for the Pinery fire recovery outlined in the Pinery-specific program logic and developed the following list of broad key evaluation questions for the evaluation of the Pinery fire recovery.

**Table 1: Key evaluation questions**

| Key evaluation question (KEQs) for the Pinery fire recovery | |
|---|---|
| KEQs: Overarching evaluation questions | 1. Has the recovery been implemented in accordance with the Strategic Recovery Plan and the National Principles for Disaster Recovery?<br>2. How satisfied are the community, land owners and businesses with the recovery process and the extent to which their needs have/are being met?<br>3. What impact did governance arrangements have on the recovery process?<br>4. To what extent has the recovery achieving its intended outcomes, in the context of external factors? (i.e. Qs 5-13) |
| KEQs: Built infrastructure recovery | 5. Are facilities and infrastructure appropriate and functioning to meet the current and ongoing needs of community members, business owners and farmers?<br>6. Have the housing needs of the community been met? |
| KEQs: Economic recovery | 7. To what extent is the local economy operating as an effective and sustainable system?<br>8. How resilient is the local economy to future risks and threats? |
| KEQs: Social recovery | 9. Are the health and wellbeing needs of the community being met?<br>10. Does the community have access to effective and appropriate psychosocial support?<br>11. Has the recovery process increased community resilience to respond to future disaster events? |
| KEQs: Natural environment recovery | 12. Are healthy levels of biodiversity and habitat being maintained?<br>13. To what extent has the risk of adverse impacts of a future disaster been minimised? |

# 2 Evaluation methodology

This section presents the steps undertaken by UTS to evaluate the Pinery fire recovery.

## Monitoring and Evaluation Framework

UTS developed a monitoring and evaluation framework for the evaluation of the Pinery fire recovery based on the overarching principles, outcomes and indicators of success outlined in the Draft National M&E Framework. The Pinery fire recovery evaluation framework drew on the draft National M&E Framework and the Pinery Fire Strategic Recovery Plan to:

- Determine what successful disaster recovery 'looks like' in the Pinery fire context
- Develop a program logic for how the activities associated with the Pinery fire recovery contribute to the intended recovery outcomes in the built environment, economic, social and natural environment domains
- Determine a list of evaluation questions, aligned to the evaluation objectives and program logic, that will be addressed in the Pinery fire recovery evaluation
- Guide the indicators of successful recovery that will be measured and analysed to answer the evaluation questions
- Identify the data sources for those indicators
- Identify and describe the methods to analyse that data
- Provide a detailed plan for implementing the evaluation.

## Document and data review

UTS analysed available records and reports of the Pinery fire recovery process and outcomes to extract data for the evaluation and to provide the project team with a better understanding of the Pinery fire recovery implementation prior to commencing field work.

**Pinery Fire Strategic Recovery Plan**

Based on ANZSOG's National M&E Framework for Disaster Recovery programs, the purpose of the Strategic Recovery Plan was to coordinate and guide integrated activities to support the medium to long term recovery of the fire affected communities 1 July 2016 to 1 December 2017. It presented in detail the intended indicators and outcomes for issues related to infrastructure, economic, social and environmental recovery, along with providing an approach to evaluating each of the identified issues.

**Recovery Summary Reports**

The State Recovery Office produced eight recovery summary reports on behalf of the State Recovery Committee (SRC), with input from all agencies involved between 27 November 2015 and 18 January 2017. The summary reports are produced to inform a broad audience including the Duty Minister, other Ministers, Chief Executives of Government Departments, SRC, SRO and Local Recovery Coordinator. The reports summarised recovery activities by dividing them into immediate recovery co-ordination and ongoing support for the community. Activities mentioned in the summary reports were further divided into the recovery domains of infrastructure, economic, social and environmental recovery.

**Pinery fire Recovery Newsletters**

The Pinery fire Recovery Newsletter was published from 27 November 2015 to 5 May 2017. The 25 issues were an important source of information for community members affected by the fire. Each issue would highlight the extent of the damage or recovery, the recovery initiatives put forth, list of events in the region, and contact details of important agencies involved in the recovery process.

**Pinery Fire - Community Recovery Fund - Fourth Quarterly Report**

This Quarterly Report (1 Jan 2017- 31 March 2017) provides details on the progress of the funded programs aimed at restoring social networks in the fire scar.

**Pinery Fire Recovery Final Report (July 2017)**

As a follow-up to the Pinery Fire Interim Report (September 2016), the final report provides an overview of the seventeen month recovery activities and makes important recommendations to improve recovery programs in future.

The report outlines in detail the recovery structure, the recovery process, the amount of donations received and funds raised, volunteers, significant government agency involvement, and the role of local governments in the fire scar. It also provides the results to the Community

Survey (n=199) that was conducted to validate the activities of the recovery program that were utilising the Strategic Recovery Plan as their basis. The survey was also meant to serve as an opportunity to measure community satisfaction with the initial recovery activities and to identify areas for future improvement from the perspective of primary producers, businessmen/women, and the general public residing or operating in the fire scar.

**Other documents**

The document review and the design of the evaluation methodology was also informed by a review and analysis of the following documents:

- Disaster Recovery Guide for Councils, LG South Australia
- Evaluation of post-disaster recovery: A Review of Practice
- Community Recovery: Handbook 2, Australian Institute for Disaster Resilience
- National Strategy for Disaster Resilience, Council of Australian Governments
- Literature Review- Relief and Recovery Strategy, Emergency Management Victoria
- Combined Vulnerability Report provided by the State Recovery Office
- Reflections on the Pinery fire

The following data was also reviewed:

- Data on labour force statistics in the four affected councils (received from SA Department of State Development)
- ABS Regional demographic statistics for affected councils
- Vulnerability report provided by the State Recovery Office
- Data on agricultural production: Primary Industries and Regions SA (PIRSA)
- Data on housing and vacancy rates (SA Housing).

## Stakeholder consultations

Consultations with key stakeholders involved in implementing the Pinery fire recovery were held to investigate the process and outcomes of the Pinery fire recovery and their individual experiences. For example, how the risk of adverse impacts of a future disaster have been managed; implementation relative to the Strategic Recovery Plan; how the recovery is achieving its intended outcomes; the influence of external factors on recovery; and the impact of governance arrangements on the recovery process.

The 29 stakeholders represented state government, NGOs and community organisations and were interviewed by our team of consultants in September - October 2017, either by phone or face-to-face in South Australia. Appendix 1 details the stakeholders consulted.

## Community consultations

Four meetings were organised with community members residing in the fire ground. These consultations focused on residents' experience and satisfaction of the Pinery fire recovery process and the extent to which their needs have been met, or continue to be met. This included discussion of housing needs; the effectiveness and resilience of the local economy; health and wellbeing needs; psychosocial support; community cohesion and resilience.

Primary producers and small business owners also participated in these meetings and offered perspectives on the appropriateness and functionality of facilities and infrastructure to meet current and ongoing production needs; as well as the perceived effectiveness, sustainability and resilience of the local agriculture industry, and local economy.

Community meetings were held in Freeling, Wasleys, Hamley Bridge and Owen.

## Online survey of Pinery community recovery

Community members were invited to participate in a 12-15-minute online survey that focused on:

- The extent to which facilities and infrastructure are appropriate and functioning to meet the current and ongoing needs of community members, business owners and farmers
- The extent to which the housing needs of community members have been met
- Skills, knowledge and resources to re-build in a fire-safe way with regard to local disaster risks
- Access to, satisfaction with, and utility of information, assistance and support given on accommodation assistance and re-building;
- Effectiveness and sustainability of local economy

  - Business confidence and economic outlook
  - Operational, financial and environmental knowledge and skills to restore production (knowledge and skills; satisfaction with advice, support and information provided)
  - Affordability and accessibility of local goods and services
- Resilience of local economy to future risks and threats
  - Disaster resilience and continuity plans (existence of; knowledge and skills; satisfaction with advice, support and information provided)
  - Adequacy of insurance relative to pre-fire
- Extent to which health and wellbeing needs of the community are being met
- Access to effective and appropriate psychosocial support
  - Community awareness of supports and issues
  - Community satisfaction: access, range and utility of support
- Community resilience to response to future disaster events
  - Effectiveness and capacity of community networks and support
- The extent to which public and private greenspaces, gardens and parks are operational and meet community needs
- Satisfaction with and access to advice, resources and information about garden recovery.

### Methodological limitations

UTS received 162 responses to the online survey. The key demographics of the survey respondents have been presented in Table 2.

The fire affected approximately 40,000 people in four Local Government Areas. The small sample size for the online survey relative to the total population means that results may not be reliable, and should be interpreted with a degree of caution. It is also likely that survey respondents are not representative of the total affected population, as female respondents, and respondents from some LGAs were over-represented. This is acknowledged in our recommendations, which advises developing benchmark data for each domain, to ensure availability of appropriate outcome data.

**Table 2: Key survey demographics**

| | | % |
|---|---|---|
| **LGA of residence** | Adelaide Plains | 12% |
| | Clare and Gilbert Valleys | 6% |
| | Light Regional Council | 51% |
| | Wakefield Regional Council | 22% |
| | None of the above | 9% |
| **Primary Producer / business owner** | Primary producer / business owner | 30% |
| | Neither | 70% |
| **Gender** | Females | 75% |
| | Males | 25% |

## Collaborative outcomes workshop

Once UTS completed the preliminary analysis of the evaluation findings for the Pinery fire recovery, a workshop was organised with representatives from the State Recovery Committee to support a collaborative and participatory approach to undertaking analysis. The workshop was an opportunity for those directly involved in implementing evaluation recommendations to review the evaluation findings, and to discuss and prioritise the opportunities for recovery processes moving forward.

# 3 Evaluation findings

Based on the program logic for the Monitoring and Evaluation Framework for Disaster Recovery Programs in Ryan et al, (2015), elements of disaster are grouped into the following outcome domains (see Appendix 3):

- Reconstruction of infrastructure and built environment
- Restoration of emotional, social and physical wellbeing
- Restoration of the local economy
- Restoration of the natural environment.

Our evaluation findings have assessed each of the activities under the immediate, intermediate and the ultimate outcomes that identified the success of the recovery in each of these domains. The governance process of the Pinery fire recovery efforts, and contextual factors that impacted the overall evaluation were also examined.

Sections 3.1 to Section 3.6 present our detailed evaluation findings from the qualitative and quantitative research.

## 3.1 Contextual factors

There are a number of factors that influenced the Pinery fire recovery effort, and the capacity of UTS to assess its success.

### High levels of cooperation and support for the evaluation

UTS' evaluation of the Pinery recovery was greatly supported by the SRO's enthusiasm for and engagement in the evaluation process.

The positive role that the State Recovery Office played in facilitating congenial partnerships and relationships meant that there was a high level of buy-in from government, non-government and community stakeholders for both the recovery process and this evaluation.

All stakeholders that we approached saw value in the evaluation process and were easily engaged in evaluation activities.

Finally, many of the communities affected by the Pinery fire are small tight-knit communities, with pre-existing community support networks and structures that were tapped into to support community-led recovery activities. UTS has also been able to tap into these structures and networks to facilitate engagement with evaluation activities by members of the affected communities.

### Geographical proximity to Adelaide

Stakeholders noted that the geographic proximity of the Pinery fire to Adelaide meant that the capacity of NGOs and other agencies to respond and harness volunteer support was significantly greater than if the fires were in more regional or remote areas. This was primarily due to established networks that could be drawn on to support the recovery.

Many of the large NGOs and state government agencies are headquartered in Adelaide, which also enhances their capacity to respond.

> *This might sound strange, but the blessing of Sampson Flat and Pinery is it was so close to Adelaide, so you've got a million people on the doorstep of those fires who had some capacity to help, but if disaster is in regional or remote areas, it's a lot harder for us.*
>
> NGO stakeholder

### Capacity to embed learnings from the Sampson Flat bushfire

The January 2015 Sampson Flat bushfires were a series of bushfires that primarily affected the Adelaide region, predominantly the Adelaide Hills and the outer Adelaide metropolitan area. Some stakeholders felt that their capacity to assist the recovery from the Pinery fire was enhanced by leveraging off the experience and learning gained from their involvement in the Sampson Flat recovery.

> *By the time the Pinery fire burned, we'd had 10 months where we'd really built a lot of credibility and a good reputation. There was a really high level of engagement in Pinery… there was a lot of learnings from Sampson Flat, so when everyone was hitting the ground in Pinery, everyone had immediate previous experience to draw on.*
>
> NGO stakeholder

## Crop yields in 2016

A number of stakeholders and primary producers reported better than expected crop yields in the 2016 harvest (notwithstanding that a number suffered from rain and frost damage which affected grain quality). Good crop yields reportedly 'lifted spirits', positively affecting both financial and emotional recovery[1].

## Close-knit agricultural communities

The Pinery fire area is in the Lower North district of South Australia. Nearly all of the land in the fire scar is used for agricultural production and most of it is intensively cropped.[2] There are three active Agricultural Bureau of South Australia branches in the region, which act as a network for farmers interested in improving agricultural production. Many primary producers in the area are also members of the South Australian No-Till Association, livestock producer groups. These long-term networks and associations resulted in strong connections throughout the agricultural sector and communities, and supported a number of community-led initiatives and provided a strong foundation for community-led recovery processes.

[1] (Young, Tothill, Drew, & Dohle, 2017)

[2] (Young, Tothill, Drew, & Dohle, 2017)

## 3.2 Governance

The evaluation sought to understand the impact of the governance arrangements on the recovery process and the extent to which the recovery has been implemented in accordance with the Strategic Recovery Plan.

### Governance – a key strength of the overall recovery

State government coordination in relation to emergency management is clearly strong in South Australia. The State Recovery Office has leadership in bringing together the recovery effort, and it appears that the various government and non-government agencies are well coordinated. Stakeholders overwhelmingly agreed that appropriate governance and operational structures were in place to enable effective coordination of recovery activities.

Recovery activities were guided by a clear plan, and a common understanding of recovery goals and purpose. Stakeholders consulted during the evaluation felt the governance structure was supportive, with scope to implement innovative ideas and customised solutions. One of the Local Recovery Coordinators said they 'revelled in the broad parameters of the remit'.

The Pinery fire recovery was supported by a range of initiatives and activities with objectives and planned outcomes across four domains that underpin successful recovery:

- Reconstruction of infrastructure and built environment
- Restoration of emotional, social and physical wellbeing
- Restoration of the local economy
- Restoration of the natural environment

### Strategic Recovery Plan

Recovery activities, and their overall purpose, were grouped into the four domains that underpin successful recovery in the Pinery Fire Strategic Recovery Plan.

The Strategic Recovery Plan for the Pinery fire was not developed until June 2016, seven months after the fires. The Local Recovery Coordinator and Committee developed the Plan, with leadership from the SRO. It is noted that both Local Recovery Coordinators had both emergency services backgrounds and the capacity to communicate with the affected communities. These skills and qualities allowed the Local Recovery Coordinators to put orderly structures and processes in place to guide the original recovery, despite the absence of a Strategic Recovery Plan in the early stages.

To help provide clarity about planning in the future, there is an opportunity to develop a broad recovery framework that can be applied to any recovery in the initial stages, and then tailored to the individual recovery needs of a specific community. Feedback from stakeholders suggests that this would provide clarity of purpose to those involved in implementing recovery, and an understanding of where they are on the continuum of recovery.

### Transition from response to recovery

The transition from emergency response to the recovery phase was efficient and the recovery was initiated immediately.

The State Emergency Centre (SEC) was activated on 25 November 2015 to coordinate resources to support the Country Fire Service (CFS) activity while responding to the fire. The State Recovery Committee (SRC), which is accountable for coordinating recovery in case of a disaster or an emergency held three meetings of high importance in the week of the fire. The South Australian Recovery Hotline was activated by the State Recovery Office (SRO) on 26 November 2017 to provide information for those seeking help or advice. The hotline dealt with 529 calls within the first 24 hours of the fire.

The Minister for Communities and Social Inclusion was appointed Duty Minister on 26 November 2015. The emergency status changed from response to recovery on 27 November 2015 and the Local Recovery Coordinator commenced on the same day.

The Emergency Relief Functional Support Group (ERFSG), led by Housing SA, immediately established relief centres in Balaklava, Gawler and Clare on 25 November 2015. These centres provided emergency accommodation or shelter, information, financial assistance, psychosocial support and refreshments to those who had been affected by the fire. These emergency centres closed by 11 December 2015 when ERFSG started to provide expanded services from the Pinery Fire Recovery Centre established in Gawler. In addition, ERFSG also provided mobile recovery services at Hamley Bridge and Kapunda until July 2016 (with 112 community members attending the mobile centres).

### Pinery Fire Recovery Centre

The Pinery Fire Recovery Centre provided services such as information on counselling,

health services, returning home, replacement of lost documents, insurance, animal and land management, business support and financial assistance. The Centre staff also provided psychological support to people via community meetings, events, and home visits in collaboration with staff and volunteers from the non-government sector.

The Pinery Fire Recovery Centre catered to 1,319 people and remained open until 28 December 2016. People requiring further support at that time could access it through the Recovery Centre that had been established in Virginia to support those affected by extreme weather events during September and October 2017. The Virginia Recovery Centre closed on 30 June 2017.

Of the community members who responded to the community survey, 87% (n=140) had received information and 69% (n=147) had received emotional support from the Recovery Centre. Among those who didn't receive emotional support, the vast majority (95%, n=42) said it was because they did not need it. There were high levels of satisfaction for both the emotional support and information provided by the Pinery Fire Recovery Centre and the Recovery newsletters. Overall, they were identified as the most useful sources of support and information besides that provided by family, friends and agricultural networks. (See section 3.5)

## Structures to support a community-led recovery

One of the fundamental questions of the evaluation is whether the disaster recovery assistance program allowed the communities affected by the Pinery fire to operate sustainably at an acceptable level and that they are more resilient to future disasters.. By achieving these outcomes the government can withdraw from the recovery process and allow the community to manage its own recovery. In other words, government assistance is not aimed at restoration or returning communities to 'normal activity' or a 'pre-disaster' state, but to getting them to a state of affairs where communities continue the recovery processes themselves. Doing so facilitates resilience in communities.

The Local Recovery Committee (LRC) was established to oversee and support the recovery effort, identify emerging issues and determine their solutions, and develop a recovery plan. The Pinery fire LRC included community leaders and representatives from the local government, non-government organisations, and government agencies. The Committee met 24 times over the entire recovery period.

The SRO also appointed a Community Development Officer (CDO) in January 2016 to manage the development and delivery of community programs and events under the oversight of the Local Recovery Coordinator. The CDO formed the Pinery Recovery Community Action Group (CAG) comprising of some LRC members along with selected representatives from the affected communities.

The CDO played a pivotal role in activating community capacity. Based on a community led-approach to disaster recovery, the CAG developed a range of programs and events over the course of recovery to reach all sectors and age groups within the fire affected communities. The programs and initiatives were widely publicised via social, electronic and print media, a recovery calendar, the Pinery fire Newsletter (25 issues) and local community networks to maximize attendance.

The CAG provided good intelligence into the affected communities, helping to identify gaps in service delivery, and people who were not engaging in the recovery process. It was felt that the Local Recovery Committee provided a balance between people who can make decisions and also understand the operational issues on the ground. The Local Recovery Committee coordinated and supported the community to drive social recovery events. The Local Recovery Committee supported the activities of the CDO/CAG with both organisational support and resources.

In total over 3200 people attended over 90 activities (workshops/information sessions/events) that were supported by this role. The community discussion forums and community survey indicated that these activities were highly valued.

Some sentiment was expressed that the CDO role ended prematurely. It was observed that while the demand for Local Recovery Centre services slowed, the community-led activities were starting to 'ramp up'. Some felt that the momentum that was building around community-led activities would have been more sustainable if continued support was available to embed some of the initiatives. Nonetheless, some activities have endured, indicating an increase in the capability and capacity of the communities to manage their ongoing recovery, and withstand a future disaster. Appendix 4 discusses some of these initiatives in more detail. In the community survey, almost three quarters of respondents (73%, n=139) felt that they were able to continue to support each other to recover from the fires as a community. Two thirds (67%, n=139) agreed that the community was more supportive as a result of the fire.

Several stakeholders identified that the CAG was made up of the same faces that always get involved in community activities. While the CAG was a sound model that operated smoothly and was highly engaged with the Local Recovery Committee, burn out was identified as an issue. It was suggested that future recovery efforts should give thought to expanding the CAG at different stages and look for strategies for reigniting different people to come up with new ideas.

A few state government stakeholders suggested the different reporting lines of the Local Recovery Coordinator (through the SRO to the Minister) and the Recovery Centre (through the ERFSG (Housing SA)) created a potential for delays in decision making if there was poor communication between the Local Recovery Coordinator/CDO and the Recovery Centre. There was a perception that the current structure relied on the qualities and temperaments of the people in these roles to encourage open communication and cooperation. However, the Pinery fire evaluation found there was good communication between the Local Recovery Coordinator/CDO and the Recovery Centre, and no delays to decision making or other issues resulting from the different reporting lines were identified. Indeed, the effectiveness of these relationships was identified as a strength of the overall recovery. The co-location of these two functions was viewed as crucial to the success of these roles.

## Planning and coordination of services/activities

Stakeholders across the evaluation felt that state government coordination was highly effective and the SRO's preparation in relation to that had considerable benefits for the recovery. The Local Recovery Coordinator felt that necessary services were made available to support the recovery and no inhibitors with respect to implementing the Strategic Recovery Plan were identified.

Several government and non-government organisations reported ongoing work to enhance their capacity to manage disaster recovery services and activities into the future. For example, some organisations are looking into increasing the amount of their sitting funds to resource any unforeseen disasters, others are training staff in emergency management and response/recovery activities, others are considering, or have established Memorandums of Understanding (MOU) around recovery. For example Red Cross have a MOU around the provision of mental health outreach and mental health first aid through the Recovery Centre.

The SRO coordinates twice yearly forums with key NGOs involved in recovery to collaborate and plan for the future. A few NGOs noted that they needed to look at processes within their own organisational chapters and divisions to improve the effectiveness and efficiency of service delivery and support, and maximize capacity building and knowledge sharing within their organisation.

### Coordination by local councils

It appeared from the consultations with stakeholders and community members that there is some lack of clarity in the community about the role of local councils in recovery. The community often looked to local councils for leadership in recovery, but local councils were not necessarily resourced or sufficiently equipped to play that role.

The Community Development Officers employed by each of the councils played a critical role in supporting the CDO engaged by the SRO. The local knowledge of council Community Development Officers assisted the identification of key community leaders and issues, contributed to council 'buy-in' and supplemented the limited resources available to the Local Recovery Coordinator and the CDO. They also played a critical role supporting the CAG's activities.

Council CDOs felt that the council executive were not always able to clearly identify the parameters of their roles and responsibilities with respect to recovery. This not only impacted their ability to implement their role, but also to made it difficult to manage community expectations of their remit.

Since the Pinery fire the Local Government Association of South Australia (LGA) and the SRO developed the *Disaster Recovery Guide for Councils*, designed to help councils understand their role and contribution to recovery, consider recovery arrangements and build capability of their organisation, communities and recovery partners. It is understood that the LGA is currently working on an Emergency Management Template and Disaster Recovery Template for local councils. It is hoped that this will improve the capacity of councils to implement quick and effective support to their communities.

### Coordinating donations of goods and spontaneous fundraising

Managing overwhelming generosity (in-kind or financial) was a challenge. The donation of second hand goods was a key issue for some NGOs and local councils that emerged in this context. These stakeholders emphasised the

importance of understanding the needs of the individuals and communities instead of dictating them, and that donations of second hand goods should be based on community need. Some NGOs and councils faced the problem of people wanting to donate goods they thought the Pinery community would want, but then not having the channels to administer the distribution.

> *Some groups of people were asking us to meet their unrealistic expectations. For example a group of people contacted us to distribute their donated books to 6 year olds in the area but they didn't know who they were…how are we supposed to locate them?*
>
> NGO stakeholder

To help mitigate this SRO has an arrangement with St Vincent de Paul (SA) Inc. to coordinate the donations of food, clothing, etc. However this remains a challenge for future recovery efforts.

There were also some concerns about the transparency and accountability around spontaneous fundraising. Stakeholders and community members across the evaluation supported and valued the coordination of monetary donations through the State Emergency Relief Fund (SERF).

It was suggested that opportunities for abridged and combined applications should be explored to ease the administrative burden on both organisations/agencies coordinating financial and in-kind assistance and the community members applying for it.

### Monitoring and evaluating success

The existence of the Pinery Fire Strategic Recovery Plan document aligned to the Draft National M&E Framework meant that the requisite information was available and allowed us to easily apply the high-level program logic and outcomes outlined in the Draft National M&E Framework to the Pinery fire recovery setting.

However, beyond SRO survey, few mechanisms were in place to assess outcomes (i.e. change that has occurred as a result of recovery activities), as well as outputs (i.e. what activities were delivered).

Embedding monitoring and evaluation processes consistent with the National M&E Framework into agency work plans (for example the SEMC strategic plan) would encourage greater outcomes focus in recovery planning. It would also provide a framework for ongoing and real time assessment of recovery needs rather than a retrospective assessment of success.

## 3.3 Built infrastructure recovery

The Pinery fire primarily burned across 82,600 hectares of agricultural land, with farm sheds and outbuildings and fences sustaining the most damage across the fire scar (Online survey of Pinery community recovery, 2017).

#### BUILDING ORGANISATIONAL RESILIENCE

In response to their experience providing recovery support for the Sampson Flat and Pinery fires, Habitat for Humanity has recognised a need to engage with and recruit volunteers to enhance their capacity to respond effectively and quickly to future disasters.

Through a SA Natural Disaster Resilience Program (NDRP) grant Habitat for Humanity have been funded to deliver the *Brush with Kindness* program to build their capacity for disaster recovery. *Brush with Kindness* recruits and trains volunteers to go into people's homes that are experiencing hardship and complete minor work on their home to get it into a liveable condition.

Volunteers are recruited to provide volunteer services in the immediate term with *Brush with Kindness*, but with the understanding that when the next disaster strikes they will be mobilised as trained and experienced volunteers to the affected community.

Habitat for Humanity believe this will enhance their capacity to respond straight away and 'hit the ground running'.

As the fire did not completely enter the key towns in the Pinery region, most domestic and town buildings only required ash, smoke and dust clean-up. Commercial properties that were affected in the towns included a Post Office, a bowling club, and two businesses with minor damage. Table 2 summarises damage and destruction to built environment following the Pinery fire.

**Table 3. Damage to built environment in the Pinery region**

| | Damage |
|---|---|
| Area of land burnt (hectares) | 82,600 |
| Houses destroyed | 97 |
| Houses with major damage | 10 |
| Houses with minor damage | 39 |
| Sheds and outbuildings destroyed or highly damaged | 546 |
| Sheds and outbuildings with minor damage | 34 |

Source: Pinery fire Recovery Final Report — July 2017

By November 2017, 40.2% of the total destroyed dwellings have been rebuilt or approval given to rebuild (Table 4). Community members who were consulted during our community meetings suggested that some people are still in the process of rebuilding or restoring as these activities are time and resource consuming.

**Table 4. Council-wide data on destruction and rebuilding of private dwellings**

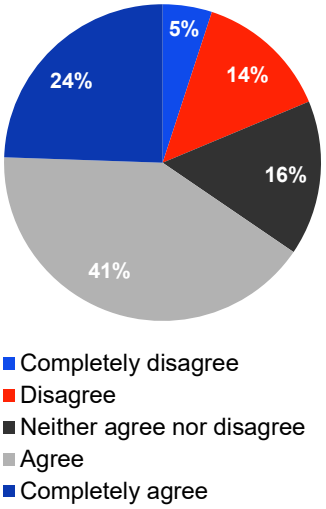
| LGA | Destroyed | Rebuilt / approved |
|---|---|---|
| Total private dwellings | 97 | 39 |
| Light | 41 | 13 |
| Wakefield | 36 | 14 |
| Clare & Gilbert Valleys | 5 | 1 |
| Adelaide Plains | 15 | 11 |

Source: Pinery fire Recovery Final Report—July 2017

Overall physical restoration and reconstruction is clearly visible in the Pinery region. The online survey indicates that at least 65% of the respondents feel that they have physically recovered from the fire in 2015. Well established counter disaster arrangements at state and local government comprising of comprehensive prevention, preparedness, and response and recovery activities played a key role in prompt physical recovery of the Pinery region. A majority of the 14% of the respondents who stated that they have still not physically recovered from the fire indicated lack of time as their key reason for it.

**Figure 2. The extent to which respondents have physically recovered from the fire**

**(n=139)**




Source: Online survey of Pinery community recovery, 2017

The following sections highlight the key themes that have emerged from our qualitative and quantitative evaluation findings in the built recovery context.

## Essential services are appropriately functioning

One of the key goals of built infrastructure recovery is to ensure that 'human-made assets that underpin the functioning of a community' are effectively operating[3].In this context, our evaluation investigated how promptly was the community able to access essential services, and whether the damaged and destroyed infrastructure was re-built in accordance with changing recovery needs and local disaster risks.

A review of the key documents on the Pinery recovery and stakeholder consultations via interviews and the online survey indicate that the Pinery community was provided prompt access to essential services soon after the fire. All roads were open two days after the fire with lower speed limits and detours for heavy vehicles on some key roads. All major road repairs were completed within four to six weeks. In total, the Department of Planning, Transport and Infrastructure (DPTI) restored damaged pavements, guideposts and signage of approximately 135 km of arterial roads. Power, main water supplies and telephone services were restored within three days, except in the case of infrastructure damage within a property.

There was no damage to Department for Education and Child Development infrastructure, and all schools reopened five days after the fire. Currently, all essential services are fully functional to meet community needs.

Community stakeholder discussions have indicated an overall satisfaction with the immediate restoration of essential services, with most people saying that they had access to all basic utilities and services once they were back in their homes after the fire.

## Adequate support provided to manage ongoing rebuilding

Prompt restoration and rebuilding of infrastructure is vital to the physical functioning and mental wellbeing of a community.

Successful built infrastructure recovery not only ensures effective functioning of community services, but also supports clean-up after a disaster, along with restoration and rebuilding activities[4].

At least 65% of the online survey respondents had sustained damage or destruction to their properties as a result of the Pinery fire (see Figure 3).

Our evaluation findings indicate that community members, landowners and businesses were promptly provided with information, skills and support through various communication channels and government and non-government agencies to manage ongoing planning, rebuilding, restoration, insurance and design processes.

The overall role of most NGOs was to complement the assistance from state and local governments in providing community members with practical assistance and toolkits for cleaning up debris, and repairing or rebuilding properties.

More than half of the total survey respondents indicated that they received support and assistance related to rebuilding/repairing of property fences (53%), while at least 44 per cent and 40 per cent of the respondents had received assistance with the repair of their gardens and houses respectively (see Figure 4).

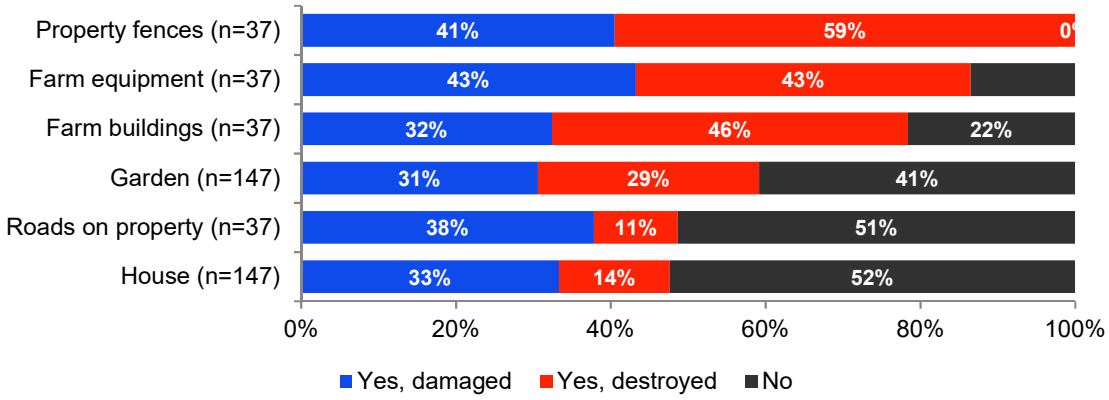
Community members expressed high levels of satisfaction with the advice and assistance received for each of the above-mentioned aspects. According to the survey, all community members who sought support with repair of roads on property, and rebuild of residential or farm buildings were either satisfied or extremely satisfied.

> *We are grateful to them for coming to our houses to clean up and for gifting us toolkits... buying tools for cleaning up and rebuilding can be expensive.*
>
> Community member

[3] Australian Government Attorney-General's Department, 2011, Community Recovery Handbook 2, Australian Emergency Management Handbook Series, p.89.

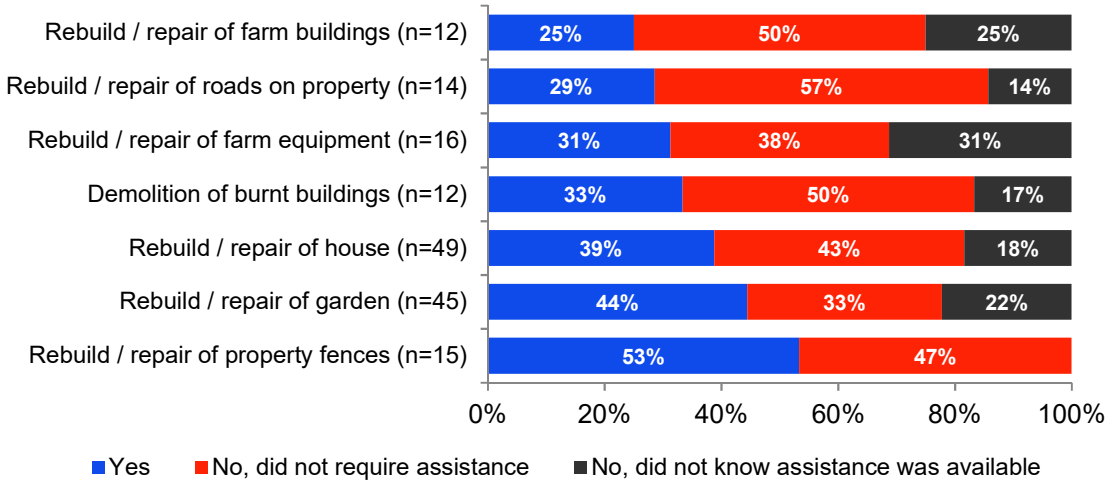
[4] Black A., & Hughes, P. (2001). *Occasional Paper No. 3: The identification and analysis of indicators of community strength and outcomes*. Canberra.

**Figure 3. Percentage of damage sustained to different aspects of the built environment**



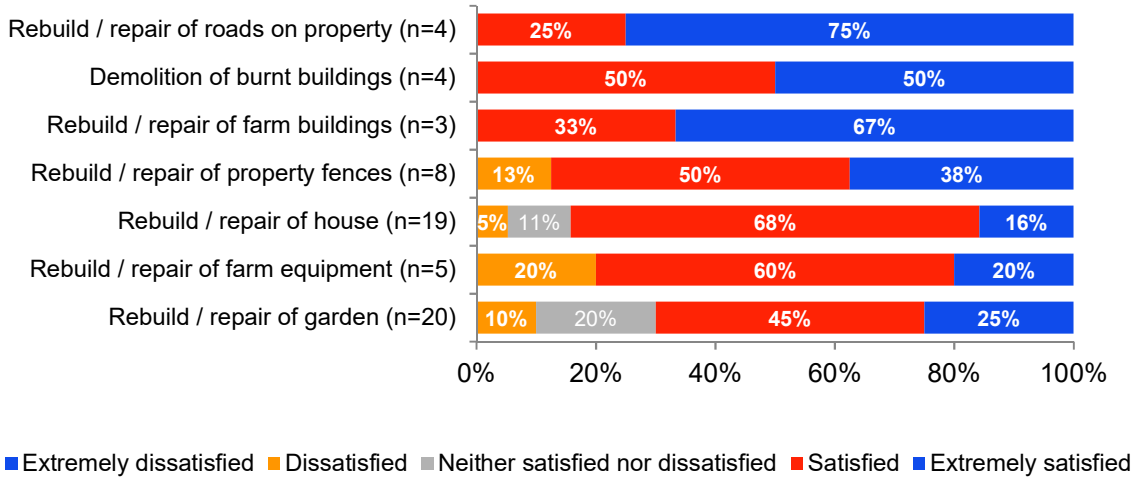

Source: Online survey of Pinery community recovery, 2017

**Figure 4. Percentage of respondents who received advice and support with different aspects of built recovery**




Source: Online survey of Pinery community recovery, 2017

**Figure 5. Satisfaction with advice/support received for built recovery activities**




Source: Online survey of Pinery community recovery, 2017

## Timing of support

Fencing assistance was crucial given the majority of the affected population were primary producers. The majority of primary producers who sustained property damage experienced sustained damage or destruction to fences, farm equipment and farm buildings (see Figure 3).

While the SRO survey and interviews with community members indicated high satisfaction with fencing assistance provided, it was suggested that it may have been more useful to have fencing assistance available at various times in the recovery, rather than immediately after the fire. A number of farmers reported not having fencing assistance when they needed it most (medium to long-term recovery). In addition, the large number of stock lost also meant that fencing may not have been a priority in the immediate recovery period.

This issue presents an opportunity for improved coordination between state government, local governments and NGOs in future which could facilitate the entry of organisations into the disaster recovery process when and where they are most needed.

## Availability of information to support rebuilding and repair

Community members have not only appreciated the support provided to them financially and through physical assistance for rebuilding and repairing, but also through the information on rebuilding provided by the Pinery fire recovery newsletter, state government websites, information sessions and community events.

> *The recovery newsletters and websites were all providing up to date information related to clean up, rebuilding and repairing…we really relied on the Pinery fire recovery newsletter to obtain information on who to contact and how.*
>
> Community member

Despite the high levels of satisfaction with the assistance and information provided, some community members commented that there was potential to improve the accuracy of the information provided. In particular, community members raised concern about receiving unconfirmed and conflicting information on issues such as debris management. This issue has been discussed in detail in Section 3.6 under *Natural Environment Recovery*.

Another opportunity for improvement lies in enhanced communication processes and systems. State and local government stakeholders stated that it was difficult to ensure that warning information, and rebuilding and restoration information, was appropriately reaching all the affected communities. Alternative communications system need to be explored by SA Government following the decommissioning of the Alert SA phone app owing to reliability issues.

The issue of blackspots in mobile phone coverage was also raised, however this issue preceded the fire and authorities agreed that steps have been taken since the fire to improve the overall mobile coverage in the region.

Communication through different channels can greatly enhance the built recovery process. Rebuilding and restoration issues aggravate stress and trauma in a disaster situation. Our overall evaluation findings reveal that there is potential to improve the overall communication between the community and agencies and between agencies themselves in the Pinery region. In particular, the communication process should be tailored in a way that makes giving information and receiving feedback faster and smoother. This will greatly reduce the frustration and confusion of community members particularly in the immediate and intermediate phases of a recovery process.

## Community is housed in suitable accommodation

Another indicator for assessing the success of built environment recovery involved determining whether the community was provided appropriate shelter in the immediate aftermath of the fire, and the appropriateness of their current housing situation. According to the online survey, only 18 per cent of the total respondents (n=147) stated that they required short-term accommodation assistance after the fire. The majority of the community members in the Pinery region have expressed that the community was promptly provided with temporary shelter if required and are currently in a stable housing situation.

State government stakeholders have confirmed that the housing needs of the community have been completely met, and within the first 12 months of the fire, no one in the region was left in a housing crisis. They also expressed that 99% of the insurance claims related to re-building had been closed.

*Affected people were promptly provided shelter by the government or non-government agencies or by family and friends. Within the first year of the fire they were all back into long term housing conditions. Out of the few who have left the region after their properties were destroyed have done so because of emotional scarring.*

NGO stakeholder

At least 86 per cent of the online survey respondents indicated that they are either extremely satisfied or satisfied with the current housing situation in the fire scar (see Figure 6).

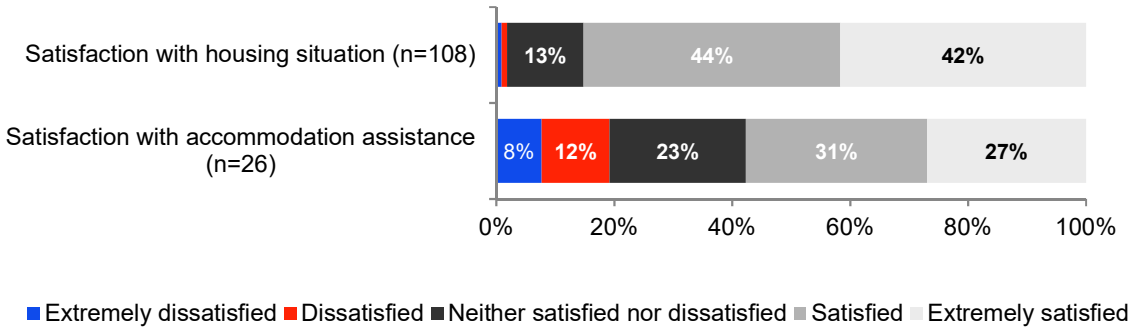
Data are not available to determine how many properties have been rebuilt after gaining approval, or how many people have actually left the region because of the fire. Anecdotal evidence from community discussions suggests that very few people have actually left the region. It was also revealed that the key reason for those who relocated was not the lack of support or resources or assistance but the emotional trauma from the fire.

## Rebuilding in a fire safe way with regard to local disaster risks

Research indicates the importance of immediate and intermediate post-disaster recovery activities including the development of capacity, knowledge and skills that will facilitate long-term recovery and build resilience[5]. Qualitative and quantitative evaluation findings confirm this and highlight that community members and organisations have used the rebuilding and restoration activities after the Pinery fire as a capacity building process. Bushfire awareness and preparedness sessions were well attended by community members after the fire and several NGOs have trained staff in emergency management since then as well.

While there is insufficient evidence to determine whether there has been an increase in the amount of insurance cover for physical assets including properties, sheds, and fences, 57 per cent of the 2017 survey respondents feel they are now more prepared to cope with the clean-up and repairs in case of a future disaster (Figure 7).

**Figure 6. Respondent satisfaction with initial accommodation assistance and current housing situation**

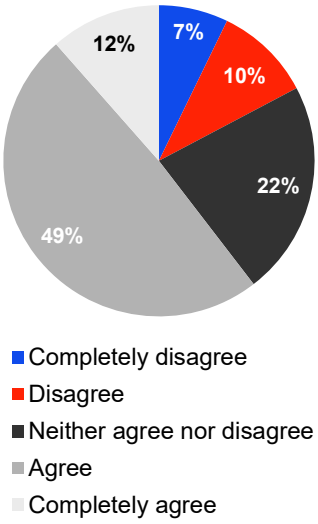



Source: Online survey of Pinery community recovery, 2017

[5] The World Bank. (2006). *Hazards of Nature, Risks to Development: An IEG Evaluation of World Bank Assistance for Natural Disasters*. Washington, DC.

**Figure 7. Percentage of respondents who feel better prepared to cope with the clean-up/repairs associated with another fire or natural disaster**

**(n=139)**




Source: Online survey of Pinery community recovery, 2017

Figure 8, presents a comparison of fire preparedness of the Pinery community before and after the Pinery fire in 2015. The increased adoption of domestic and commercial safety features shows that overall people have invested their time and money in improving resilience. Many community members have stated that they are more aware of the building regulations after going through the process of seeking approval and rebuilding after a natural disaster. As suggested by research, the disaster recovery process can be used as an opportunity to improve conditions rather than merely recover from their physical and economic losses. This contributes to the quality of the overall recovery process by allowing affected individuals to progress rather than regress[6].

Additional water tanks funded by the 'Kick in for Pinery' fundraiser have been installed across the Pinery region, increasing its preparedness for future disasters, fires in particular.

Another positive, yet unintended consequence of the built recovery process has been that the Pinery region became a laboratory for surveyors and surveying students from the University of South Australia. The students and surveyors redefined boundaries that had been set in the 1870s, and felt that they were able to give back to the community.

> *This project was first of its kind…it was not only a great opportunity to help the affected farmers but also provided valuable experience to the next generation of surveyors.*
>
> Licensed surveyor working in the Pinery region

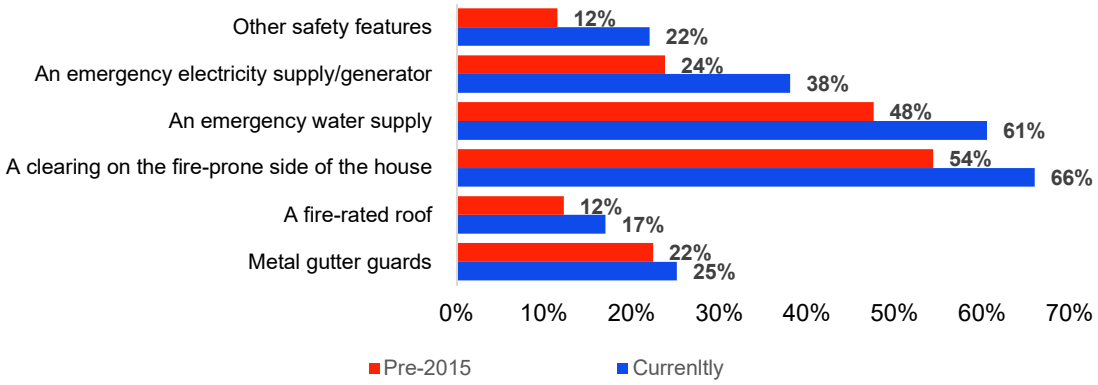
It has been noted that despite the overall increase in the self-reported safety awareness levels by community members, some government and NGO stakeholders are sceptical about the sustainability of the lessons that the Pinery community members have learnt through their experience of the fire and the safety workshops that followed. They suggested that the uptake of resilience plans is still not substantial in the community and that there is potential to continue efforts on reminding the community the importance of having safety plans.

Some community members and local government representatives also expressed that building physical resilience is costly. It was suggested that community members should receive financial assistance from the South Australian government to encourage more people to invest in safety features.

> *Being prepared in terms of having a fire pump and a hose can cost up to a $1000, we think there should be government incentives or rebates to facilitate the process of preparedness.*
>
> Community member

[6] Winkworth, G (2007). *Disaster recovery: A Review of the Literature*. Institute of Child Protection Studies, Australian Catholic University.

**Figure 8. Percentage of respondents whose houses with safety features pre/post 2015 fire (n=147)**




Source: Online survey of Pinery community recovery, 2017

## 3.4 Economic recovery

The range of economic consequences for a disaster affected community or region vary greatly and depend on the nature and severity of the event, and the economic health of the community prior to the event. The current socio-economic trend of the Pinery region demonstrates the region has progressed as an economically sustainable system following the fires. The labour force has also steadily increased in the Pinery region since November 2015 (see Figure 9)[7].

The following sections highlight the key themes that have emerged from our qualitative and quantitative evaluation findings in the context of economic recovery.

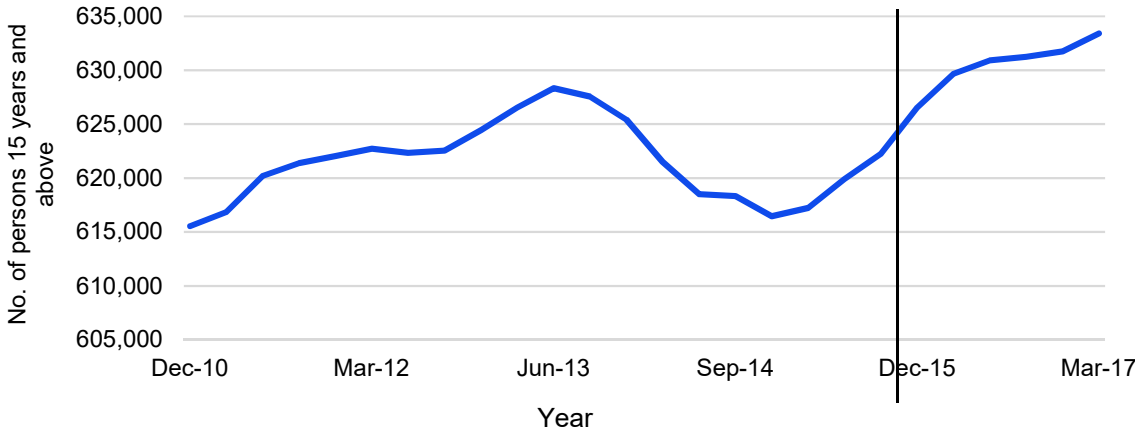
### Economic recovery: Individuals

Adequate and appropriate financial support is critical to each recovery stage, from immediate recovery during which the emphasis is on ensuring basic human needs such a shelter, food and clothing, to cleaning up and rebuilding. Two years on, community members in the Pinery region are part of a thriving agricultural economy, and are able to meet their material and service needs.

Following the Pinery fire, the community was promptly provided with financial assistance in the form of goods and services, and money or vouchers. Disaster Recovery Assistance (DRA) was offered to all people who had lost homes, suffered damage to their property, or suffered injury as a result of the fires. People could access a one-off payment for $1000 per adult and $400 per child under this arrangement. Fire impact cards were also distributed to all community members affected by the fire to allow them to obtain discounts and other special facilities. Community members whose properties had been destroyed or damaged also received assistance from their respective councils in the form of rate waivers and discounts on building assessments. Support from state and local governments was complemented with assistance from several NGOs. Both the 2016 and 2017 Pinery Community Surveys as well as feedback from community discussion groups indicated that community members highly valued this assistance.

Survey results reveal a very high level of community satisfaction with financial assistance (see Figure 10). Out of the 89 per cent of the survey respondents who received some kind of financial support, 83 per cent stated that were either satisfied or extremely satisfied with the assistance.

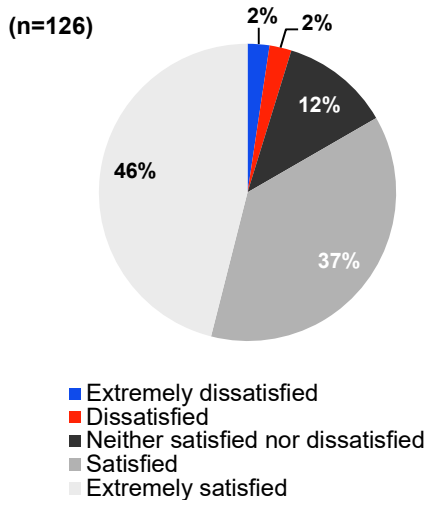
**Figure 9. Labour force growth trend in the Pinery region**




Source: Small Area Labour Markets Publication 2017, Federal Department of Employment.

[7] While exact employment data on the affected towns is unavailable, for the purpose of this evaluation, we have defined the Pinery region as the sum of the derived employment in the local government areas of Clare and Gilbert Valleys, Light Regional Council, Adelaide Plains Council and Wakefield District Council.

**Figure 10. Community satisfaction with the overall financial support received**




Source: Online survey of Pinery community recovery, 2017

## Economic recovery: Businesses and primary producers

Although all community members were directly or indirectly affected by the Pinery fire, the most significant economic toll was felt by farmers. According to PIRSA, the fire-affected area included almost 200 primary production businesses. As summarised in Table 5 below, the total estimated loss value of crops was $ 23,959,967.

**Table 5. Overall crop damage following the Pinery fire 2015**

| Crop | Burnt crop (Ha) |
|---|---|
| **Wheat** | 15 040 |
| **Durum** | 2 258 |
| **Barley** | 2 960 |
| **Other Cereals** | 451 |
| **Canola** | 189 |
| **Pulses** | 1 656 |
| **Total Crops** | 22 555 |
| **Hay (tonnes baled)** | 33 000 |
| **TOTAL LOSS GRAIN & HAY ($)** | 23,959,967 |

Source: Recovery Summary Report

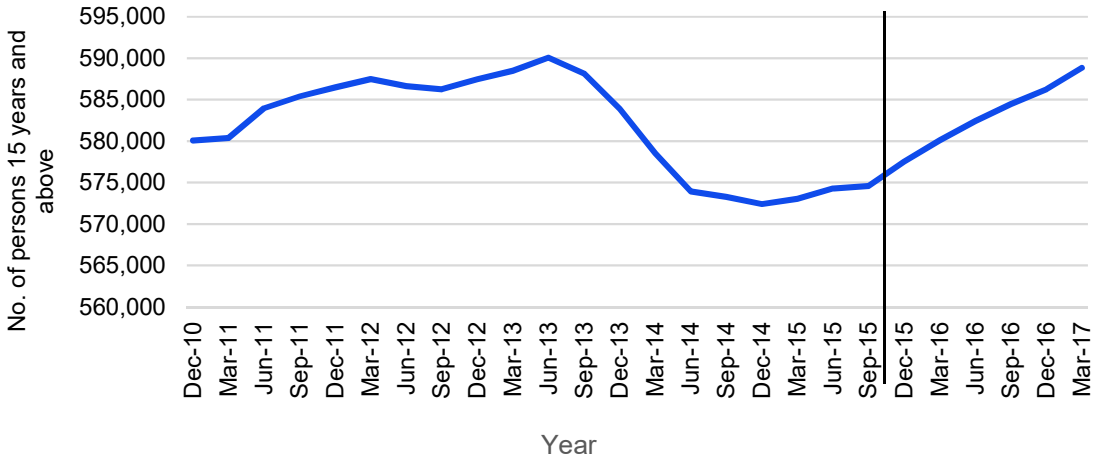
In the immediate aftermath of the fires, PIRSA worked with the Department of State Development to identify impacted primary producers, allied agricultural businesses, and small businesses to determine their recovery needs. Applications were invited under the Natural Disaster Assistance Scheme Recovery Grants from primary producers (who suffered direct damage and intended to re-establish) for clean-up and reinstatement costs that were not covered by insurance. PIRSA received 99 business recovery applications out of which 88 applications were approved and $792,300 was granted.

Primary production businesses were also provided support in the form of independent and confidential business advice by Rural Business Support, Rural Direction, Department of State Development, PIRSA, and Regional Development Australia Barossa.

Farmers and business owners were given the opportunity to participate in several community and capacity-building events that not only aimed to aid their psychosocial recovery but also provide them with strategies on business recovery and future resilience.

Stakeholder feedback revealed that no farmer or business suffered any uncompensated loss as a result of the fire. Some noted that the farmers who struggled the most in the aftermath of the fires were the ones who were already struggling before the fire. Currently, all fire-affected farms and businesses are fully functioning, and the fires did not appear to have any impact on the overall labour force unemployment rate in the Pinery region. The current level of derived employment (measured as total number of labour force minus the total number of unemployed persons) confirms this finding (Figure 11).

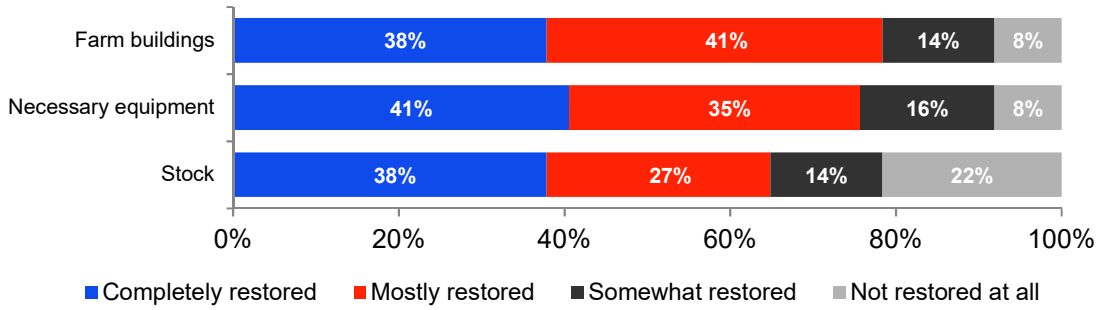
**Figure 11. Derived employment in the Pinery region**




Source: Small Area Labour Markets Publication 2017, Federal Department of Employment.

**Figure 12. The extent to which farmers have restored the ongoing operations on their farms**

**(n=37)**




Source: Online survey of Pinery community recovery, 2017

According to the online survey 2017, 41 per cent of the primary producers/business owners feel restored in terms of having necessary equipment and farm infrastructure, while 38 per cent feel restored in terms of stock and farm sheds and outbuildings (Figure 12).

Community focus group discussions revealed that primary producers are highly satisfied with the technical information and advice to guide the management of soils, stock and water courses. This confirms the findings of the Pinery Survey 2016, in which 60% of the primary producers were highly satisfied/satisfied with technical advice.

South Australia's grain harvest in 2016 was a 'bumper crop', and may have contributed to the increased confidence of farmers, and facilitated economic recovery of primary grain producers across the Pinery region. According to PIRSA's Crop and Pasture Report 2016, a substantial proportion of the bumper yield came from the Pinery region. Almost all of the state government stakeholders that were interviewed acknowledged that the bumper crop was reassuring for farmers as it not only provided them with increased financial confidence but also aided their psychosocial recovery.

Some concerns emerged during the community consultations in the Pinery region over the eligibility criteria for funding or assistance. In particular, community members who owned a property in the Pinery region but were not living there at the time of the fires or whose properties had suffered minor damage only, were unable to promptly access financial assistance from government and non-government organisations.

Some business owners also expressed dissatisfaction over eligibility criteria of grants for businesses. In particular, since grants required proof of expenditure from business, some business owners stated that it assumed that they

had additional funds in reserve, which was not the case for some.

Lack of case management during the recovery process also caused some frustration amongst individuals and organisations. Stakeholders from several non-government organisations revealed that due to lack of access to community level socio-economic data, different organisations were going to the same individuals and asking similar questions repeatedly. While NGOs understand that privacy laws make personal information sharing difficult, they expressed there is potential for disaster prone regions to work on improving the case management process.

## Insurance — key to economic recovery

According to the Insurance Council of Australia (ICA), 425 claims were received within the first two days of the fire. The total estimated loss value due to the Pinery fire was $171,589,230[8]. Out of this, 28 per cent of the total value of claims were domestic, while 72 per cent were commercial. The number of claims made in context to the fire have been detailed according to their type in Table 6.

**Table 6. Total number of insurance claims by type**

| Type of Claim | Total |
|---|---|
| Residential building claims | 530 |
| Contents claims | 545 |
| Domestic motor claims | 114 |
| Other domestic claims | 19 |
| Commercial property claims | 380 |
| Commercial motor claims | 192 |
| Business interruption claims | 15 |
| Other commercial claims | 34 |
| Crop claims | 201 |
| Total | 2,030 |

Source: Pinery fire Recovery Final Report – July 2017

Within the first twelve months, 99 per cent of all total cases were been closed. Detailed information on claiming insurance was provided through various communication channels including print/social media and the Agricultural Bureau Network. Despite this, while some people found the insurance agencies to be helpful, others expressed dissatisfaction over their interaction with them.

> *We've been very lucky. I mean, we have a farm and we lost a header and we lost sheds and stuff and sheep and our roof caught fire on our house, but people talk about their insurance companies. We had everything paid by the insurance company by Christmas that year.*
>
> Community member

Interviews with representatives from ICA indicated that community dissatisfaction with insurance settlement may be related to the following issues:

- People did not know who they were insured with
- High levels of underinsurance, with 75 per cent of people who made claims were underinsured at the time of the fire
- People wanted to have their 'excess fees' waived.

As insurance is linked not only with the economic but also the psychosocial recovery of the affected individuals, evidence from previous evaluations of natural disasters has suggested that under-insurance can be one of the most stressful factors hindering overall recovery[9]. Qualitative consultations with state government and NGO representatives have repeatedly emphasised this and stated that they consider appropriate insurance as a key resilience mechanism in case of a future disaster in the region.

> *People who were underinsured or uninsured must be suffering the most. I don't know how people can afford to remain like that in disaster prone areas.*
>
> NGO stakeholder

Currently there is no precise data on how appropriately people are insured in the Pinery region. State government representatives have also expressed that non-insurance and under-

[8] Pinery fire Recovery Final Report -July 2017.
[9] Camilleri, P., Healy, C., McDonald, E., Nicholls, S., Sykes, J., Winkworth, G., Woodward, M. (2007). *Recovering from the 2003 Canberra Bushfire: A Work in Progress.* Canberra: ACU National.

insurance remains an issue in the region which presents an opportunity to be addressed.

## Enhanced economic resilience

Economic reliance refers to the ability to survive future natural disasters with a minimum loss of life and property, as well as the ability to create a stronger and a more diverse economy[10]. In the case of the Pinery region's economy, the ability to cope, recover and rebuild after the fire was greatly influenced by the fact that the Pinery community is a close-knit community with a strong will which makes people put the needs of others before their own needs. This fact was particularly true for the strong farming community in Owen that performed exceptionally well in co-managing their recovery.

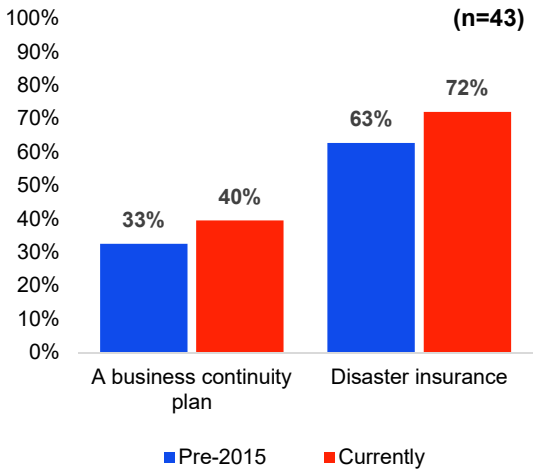
Communities were impacted in different ways by the fire. While the majority of townspeople did not suffer major economic losses, farmers, and in particular small rural landholders bore the major brunt of the fire.

Economic resilience amongst the farming community in the region was promoted through several workshops such as the ones conducted by PIRSA's 'Think Tank for Farmers' and the 'Farming after the Fire' seminar. Moreover, businesses in the Pinery region were invited to participate in grant writing workshops and free financial counselling sessions to build their capacity to raise and sustain their finances in future. These were complemented with guidance from the Regional Development Australia and Rural Business Support on reconstruction of business records and business continuity planning.

Community members have adopted different activities to enhance economic resilience. In particular, community discussions revealed that more businesses have adopted business continuity plans since the Pinery fire, and community members are more aware of the importance of appropriate insurance coverage now.

As demonstrated in Figure 13, the uptake of business continuity plans has increased by 7% while the uptake of disaster insurance by business has increased by 11% since the Pinery fire. While this is not a substantial increase, and is insufficient to confirm enhanced economic resilience, it demonstrates that businesses and farmers are moving in the right direction.

**Figure 13. Percentage of businesses with a continuity plan and disaster insurance**




Source: Online survey of Pinery community recovery, 2017

The government and non-government agencies operating in the region have also built their economic capacity. Some representatives from NGOs stated that lessons learned from the Sampson Flat and the Pinery fires have led them to establish a sitting fund to finance an unforeseen disaster.

Related to this, a few NGOs stated that they are trying to work with state government agencies to understand the funding arrangements for recovery programs. This is allowing them to target their resources to programs and activities that have less opportunity for government funding to avoid duplication of resources and effort.

A group of selected NGOs attend bi-annual meetings with the State Recovery Office to assist with the planning and coordination of disaster management recovery activities.

Some local government and NGO representatives suggested that the community demand profile shows the extent of the community's economic recovery. The fact that overall demand for financial assistance and support from state, local government and non-government agencies reduced within the first year of the fire is indicative of economic recovery needs being appropriately addressed.

Building financial resilience takes several years. Two years on, almost half of the respondents

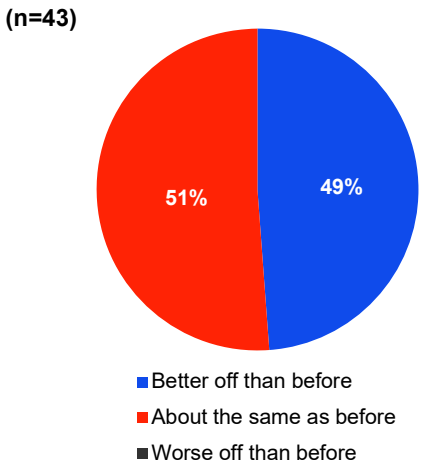
[10] Berke P., & Campanella, T. J. (2006). *Planning for Postdisaster Resiliency.* The ANNALS of the American Academy of Political and Social Science*, 604*, 192-207.

(48%) have stated that that their business or farm is better off in terms of its ability to cope with future disasters. Significantly, no respondent stated that were in a worse position to cope with future disasters. (see Figure 14). Note that this result is indicative only, as it is based on a small sample size and is not necessarily representative of the population affected by the Pinery fires (see section 2: Methodological limitations.

Owing to prompt financial assistance from the government and non-government agencies, and insurance payments, more than half of the survey respondents indicated that they feel they have financially recovered from the fires.

Table 7 below summarises the different types of government assistance available to the Pinery community.

**Figure 14. Extent of recovery of businesses and farms since the Pinery fire**




Source: Online survey of Pinery community recovery, 2017

**Table 7. Available government financial assistance**

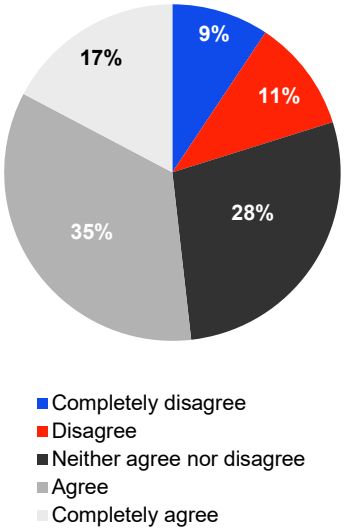
| Type of Assistance | Description |
|---|---|
| **State Emergency Relief Fund (SERF)** | SERF is the principal mechanism through which the government manages monetary donations after an emergency. The SERF committee disbursed $2,198,833 to individuals and communities that met its eligibility criteria. The criteria reflected the intent of the appeal, addressed individual and community needs, ensured that it met donor expectations and contributed to immediate, short, medium or long-term outcomes for the Pinery community.<br>St Vincent de Paul managed all the donated goods, while Livestock SA coordinated donated fodder. |
| **State Government Emergency Grant Assistance** | Grant assistance provided $280 per adult and $140 per child, and up to $700 per family. A total amount of $670,310 was disbursed as part of this assistance. |
| **Natural Disaster Relief and Recovery Assistance Grants Programme** | Administered by PIRSA, recovery grants of up to $10,000 were made available to primary producers who suffered direct damage and intended to re-establish their primary production business. A total amount of $0.79 million was disbursed which averaged to $9,000 per primary producer. |
| **Disaster Recovery Assistance** | People who lost homes or suffered injury because of the disaster could access a one off payment of $1000 per adult and $400 per child. This assistance was particularly designed to help employees, primary producers, and sole traders. |

Source: Recovery Summary Reports

Figure 15, highlights that at least 52 per cent of the survey respondents either completely agree or agree to the statement that they have financially recovered from the Pinery fire.

**Figure 15. Extent to which the community has financially recovered from the fire**

**(n=139)**




Source: Online survey of Pinery community recovery, 2017

State government representatives also revealed that where possible, local contractors were engaged during recovery and rebuilding activities to provide economic stimulus to the community. This strategy is backed by evidence, which suggests that the earlier the local community can be engaged in productive economic activity in a disaster struck region, the more beneficial it is in mitigating the overall negative impacts on the local economy[11].

[11] Commonwealth of Australia (2002). *Manual 28: Economic and Financial Aspects of Disaster Recovery*. Australian Institute for Disaster Resilience.

## 3.5 Social recovery

Multiple outcomes were examined to assess social recovery, including determining whether community members were aware of, and had access to appropriate supports for coping with the health and psychosocial effects of the fire. Although government agencies and NGOs provided extensive support, the extent to which community members and networks supported each other was also examined. Aside from providing immediate practical support, an important outcome was that these activities helped to build community resilience.

### Support and services to assist social recovery

A wide range of services and support supported the health and psychosocial wellbeing of community members. Multiple initiatives were set up to address health and mental health needs in the community. Programs were publicised via social media, newsletter, conventional media, the recovery calendar, and local networks to maximise attendance, with approximately 3200 people attending over 90 activities (workshops/information sessions/events). Free counselling services were provided to community members, and telephone and field outreach commenced on 28 Nov 2015, concluding in April 2016.

The efforts of Red Cross and Global Care were highly valued by community members. Global Care provided extensive mental health support, including advice and counselling to approximately 200 community members. This also included extensive outreach to community members, even after Global Care's official term ended in May 2017.

Red Cross volunteers undertook 2580 hours of outreach activity over 363 shifts from November 2015 to February 2016. Red Cross activities included the provision of basic welfare checks, and a complete assessment of individual wellbeing. Red Cross also provided referrals to the Recovery centre, physically visiting 1,277 properties. In October and November 2016, Red Cross and Disaster Ministries undertook outreach to 597 premises, resulting in the distribution of 300 preparedness packs. Outreach also included delivery of information on recovery basics and self-care to 84 participants over four sessions, including staff from the EPA and two affected local governments.

A number of initiatives were implemented to build community resilience. 'Men's Watch' training was provided to 60 local men, which enabled them to respond to people showing signs of psychological distress, particularly men. This initiative was particularly well received by the community, as the stigma surrounding mental health is particularly prevalent in rural communities. A booklet entitled 'Listening with purpose: local pubs standing by locals towards recovery' was distributed to nineteen licensed

#### BUILDING COMMUNITY RESILIENCE

Building resilience is an essential component of disaster recovery. The Pinery Fires Wellbeing and Resilience Project was a collaboration between government agencies and the South Australian Health and Medical Research Institute (SAHMRI), and consisted of free workshops for people affected by the fire. The workshops focused on providing a toolkit of practical skills using a framework designed to build resilience among community members.

This approach was community-led, helping people to manage their own emotions and wellbeing, as well as others'. It also included a 'train the trainer' component.

A small group of community members have been trained in the program, and in facilitating workshops, so than it future they are able to run community workshops within their own communities.

This initiative developed community members' skills in identifying others' needs, and to run workshops. This government-supported but community-led program was able to build capacity, and provide community members with the skills to build resilience within their own communities.

The initiative also recognises that achieving psychosocial wellbeing can take longer to achieve than other recovery outcomes. It provides a mechanism for creating, activating and empowering community capability and capacity to take a community-led approach to identifying and responding to ongoing psychosocial recovery needs in the Pinery-fire affected communities.

Without the program, the responsibility would be on government to provide these workshops on an on-going basis until the broad emotional outcomes are achieved.

premises within and just outside the fire scar, and was later distributed to hairdressers, post offices and pharmacies within the fire scar. A more exhaustive list of activities supporting social recovery can be found in Appendix 4.

## Assessing the impact of social recovery activities

It was difficult to obtain data demonstrating the extent to which the community's health, mental health, and wellbeing needs were met. This is largely because it is difficult to measure such outcomes at an individual and population level, or at LGA level. It would have been useful to obtain figures on notifications to Child Protection authorities, restraining orders or reports of domestic violence, suicides or attempted suicides, rates of substance and alcohol abuse, gambling rates, as well as health and psychological health issues.

However, the data we were able to obtain through interviews with stakeholders and community members indicated that social recovery is progressing appropriately, and that communities are showing signs of developing resilience to future disasters. Most community members who completed the online survey were satisfied with the emotional support received (78%). Interviews with Recovery Centre staff indicated that they were satisfied with the level of psychosocial recovery in the community. This was indicated by the reduced demand for assistance and information from the community, and influenced the decision to close the Recovery Centre.

One of the strengths of the social recovery process was the support provided by community members to other community members. In all communities where interviews took place, community members discussed the ad hoc supports provided by neighbours or others in the town, much of which is difficult to capture quantitatively. These supports included relatively minor gestures like providing a place to stay, or a cup of tea. Almost all respondents to the online survey received emotional support from friends, neighbours, and family members (88%) (Figure 16).

Crucially, these activities provided community members with multiple opportunities for social interaction. Activities such as barbecues or afternoon teas facilitated the building of social capital. Community support capacity was also enhanced through workshops on tangible skills such as mental health first aid. As such, it is not surprising that community members received most support from friends, neighbours, and family (Figure 16).

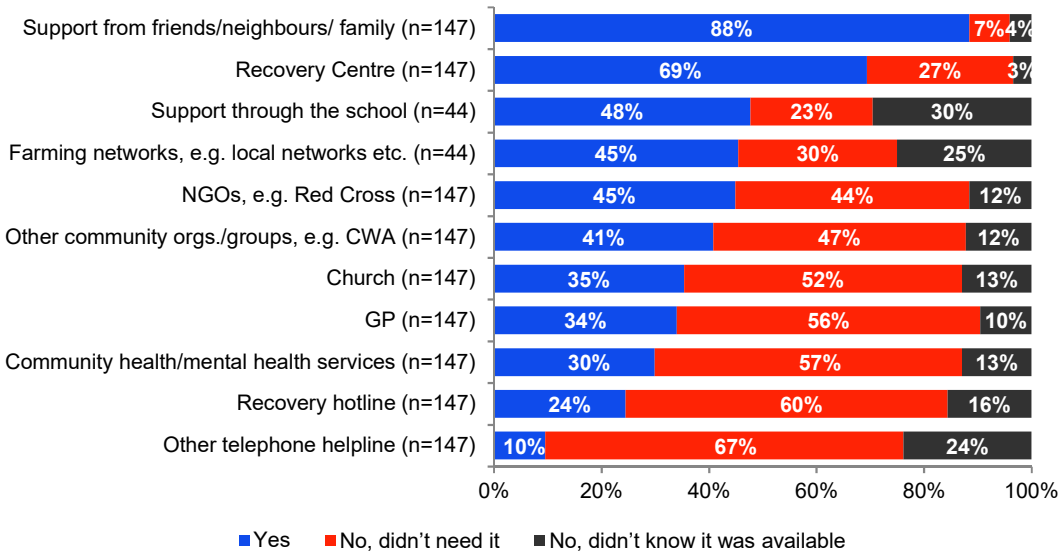
> *We hold these people dear to our heart. Not only do they know the event of the fire but they know us personally enough to help us through this situation, better than anyone else could! Some of these people were also affected so we bounced off each other and got through it together.*
>
> Community member

A number of informal support groups were also started by community members, such as the formation of a Country Women's Association group by younger women in the region, and an informal creative catch-up group in Wasleys. In Freeling, a fire support meeting that began at a local church has expanded to become a monthly social meeting at the local hotel. Many other examples of similar support emerged throughout the evaluation. The survey indicated that a significant number of respondents felt the community was more supportive because of the fire (67%; Figure 17). A high number of survey respondents also felt the community had been supportive during recovery (70%), and continues to be supportive (73%) (See Figure 16).

The State Recovery Office (SRO) survey found high community attendance at recovery-related events. The majority (70%) of those surveyed attended these events, and were highly satisfied with the positive impact of these events on their recovery (70%). A high proportion of community members also accessed support from the Recovery Centre (69%). Between 25th November 2015 and 11 December 2015, 2621 people received assistance at Balaklava, Gawler and Clare Relief Centres. A further 1,319 attended the Recovery Centre in Gawler between December 2015 and 2016. One hundred and twelve (112) people attended Mobile Recovery Centres at Hamley Bridge and Kapunda. Approximately 3200 people attended over 90 activities (workshops/information sessions/events) during the Community Development Officer's employment period.

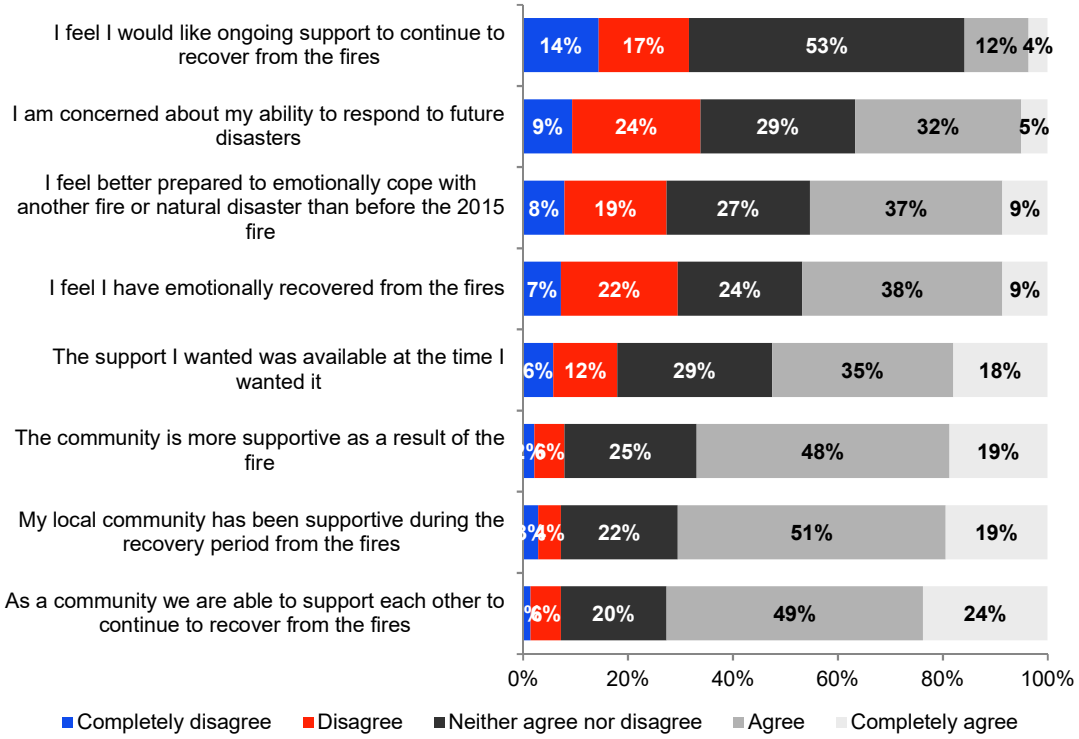
According to the SRO survey, community members were more satisfied with emotional support provided by non-government organisations (68%) than from the health system (57%).The online survey indicated that a high proportion of respondents were satisfied with the emotional support received (78%), with only 4 per cent dissatisfied. However, less than half of respondents (47%) felt that they had emotionally recovered from the fires (see Figure 17), and approximately one-quarter felt they had not recovered (29%). These survey results were in accord with comments made by stakeholders and community members.

**Figure 16. Percentages of supports received by community members**




Source: Online survey of Pinery community recovery, 2017

**Figure 17. Percentages of community members' psychosocial needs following the fire**




Source: Online survey of Pinery community recovery, 2017

This is not necessarily a failure of the recovery effort. A major difficulty in evaluating psychosocial recovery is accounting for the variety of psychological needs that emerge, because they vary between individuals, and during the recovery process. For instance, community members referred to symptoms of trauma only emerging months or two years after the fire. Although the majority of individuals would not experience a psychological disorder at a clinical level following a fire such as Pinery, most would experience some kind of trauma, or know someone who has. A number of interviewed stakeholders and community members referred to the goal of mental health recovery as coming to terms with a 'new normal'. While there is good indication that community members have accessed appropriate levels of support, it is not clear to what extent clinical support has met specific psychological needs, when needed. Few survey respondents sought emotional support from their GPs (25%), and because GPs can refer patients for mental health evaluation and counselling, this may mean that existing mental health difficulties are not treated. The extent to which this was the case across all communities is not clear. A community member expressed an opinion that over familiarity between families and their long-time family doctors meant that some doctors might have underestimated people's psychosocial needs.

It was difficult to obtain data on indicators of health and wellbeing recovery at a local government level (i.e., domestic violence, violence, substance abuse, gambling, suicide, mental health issues), but the majority of affected community members have had contact with mental health services. This has largely been driven by telephone and field outreach by Red Cross and Global Care, or from referral from the Recovery Centre.

## Support for children and young people

According to the Department for Education and Child Development (DECD), the fire affected or threatened 24 preschools, primary schools and secondary schools under DECD's authority. Many of the students' families lost property, along with staff members and their families. DECD and SA Health implemented strategies to assist the psychological recovery of children.

Recovery resources were provided to 13 local schools between December 2015 and January 2016, and factsheets and supporting material were distributed to affected schools and pre-schools. Case management support from social workers provided services to affected students and families, and intensive support was provided in schools and childcare services for Term 1 2016, including site visits, leadership forums, and workshops. DECD implemented workforce training for staff, including wellbeing support and psychological first aid training, delivered by Red Cross. Seven Primary School afternoon teas were held at six schools for parents and staff between 31 March 2016 and 12 April 2016.

Although a range of activities were carried out to support children and young people, a number of stakeholders reported that this population might not have received adequate mental health support. A number of stakeholders and community members referred to lingering mental health effects amongst children. The online survey accords with these suggestions. Although a range of activities to support children and young people were undertaken, qualitative interviews found that this population might not have received adequate mental health support. A number of community members and stakeholders referred to examples of children with lingering mental health effects.

The online survey accords with these suggestions. Of those who had children in school at the time of the fire, approximately one-third did not know support was available through schools (Figure 16). In addition, the SRO survey found that 46% of parents were not aware of DECD's brochure on fire safety in schools.

Of the 21 community members who responded to the online survey, and who received emotional support from their school, almost all found the support helpful (52%) or extremely helpful (43%).

Stakeholder interviews indicated that insufficient support for children is related to a number of systemic factors. Because the fire occurred towards the end of the school year, it may have been difficult to provide appropriate support to children and young people, at least in the early stages of recovery. It is noted that state government planning is already taking place to provide mental health support to children in the event of a future disaster event outside of the school term.

## Ongoing mental health support

Research indicates that an appropriate mental health response to traumatic events should take two approaches[12]. The first is to ensure the public is supported by a broad-based response strategy consisting of short-term counselling and

[12] Felton, C.J., 2002. Project liberty: a public health response to New Yorkers' mental health needs arising from the World Trade Center terrorist attacks. *Journal of urban health*, *79*(3), pp.429-433.

community-based support. Public education, communication, and outreach are important to this approach, as they help people to understand that stress responses to traumatic events are normal. The second approach is to target the minority of the population who have persistent traumatic symptoms or meet diagnostic criteria for mental disorders (e.g. major depressive episode, generalized anxiety disorder). The first approach will be insufficient for these individuals, who require specialized treatment such as cognitive-behavioural therapy or grief interventions.

Although multiple avenues of support were available to community members affected by the Pinery Fire, it is not clear how many individuals required targeted psychological intervention, and if they were able to access this support. It would be useful to embed a mental health evaluation component in the immediate response and recovery process to enhance accountability and improve mental health response capability. The Federal Emergency Management Agency (FEMA) in the United States has embedded program evaluation in disaster response programs. For example, mental health service providers in Project Liberty, FEMA's mental health response to the September 11 attacks, completed logs of individuals receiving mental health support. Individuals were also followed-up 18 months after program completion. This ongoing performance evaluation led to corrections to the delivery of mental health services[13]. Collecting individual-level data on mental health services accessed would facilitate an effective evaluation of community-level recovery.

During interviews with community members there was a lot of discussion about the lengths community members went to support each other. Although it is not clear how many, it is apparent that there are community members who continue to struggle with trauma related to the event. The online survey found that 29 per cent of respondents stated they had not emotionally recovered. Interviews revealed a number of factors that could account for this, including stigma in seeking mental health help, community members underestimating the traumatic effects of the fire, or simply not asking for help. Some community members also reported that medical practitioners were not encouraging people into mental health plans, which are covered by a Medicare rebate. One community member discussed a doctor downplaying the traumatic effects of the fire to a farming family, and suggested that it may be related to the overfamiliarity that can occur between families and doctors in rural areas. The online survey found that approximately half of those surveyed felt they had emotionally recovered (47%; Figure 15), but this may be attributable to families adjusting to a 'new normal'.

A number of community members reported that psychological support was not available when they needed it. Many focused on the immediate recovery to their homes and farms, or on assisting community members, and it was not until months after the fire that symptoms of trauma began to emerge.

> *The support doesn't last long enough. The emotional turmoil goes on much longer than people realise, but there is no longer any help available.*
>
> Community member

The community survey found that about half of respondents felt that support was available when needed (54%), with 17 per cent disagreeing. The online survey indicated that only a small proportion of people require ongoing support for their recovery (11%; Figure 16), but many community members remain concerned about their ability to respond to a future disaster (37%; Figure 17). Almost half of survey respondents were concerned about their ability to emotionally cope with another disaster (43%; Figure 17).

When compared with the results of the Pinery Fire Recovery Survey (2016) conducted by SRO, results from UTS' survey (2017) indicate that the level of satisfaction of the Pinery community members has risen in the domain of psychosocial recovery. While only 10 per cent of the respondents stated that they were satisfied with personal support counselling and their mental wellbeing in 2016, 47 per cent of the respondents in the 2017 survey stated that they have emotionally recovered from the fire. This may indicate that while support for social and emotional wellbeing may have been available initially, stress and other priorities in the immediate aftermath of the fire may have prevented awareness and access to this support. This highlights the importance of the continued availability of counselling and psychological support in the long term. It is noted that the small sample size of both the online survey and the SRO survey, limits our capacity to draw accurate conclusions about long-term community mental health needs.

[13] Sederer, L.I., Lanzara, C.B., Essock, S.M., Donahue, S.A., Stone, J.L. and Galea, S., 2011. Lessons learned from the New York State mental health response to the September 11, 2001, attacks.

These issues highlight the importance of reviewing the transition process back to regular services to ensure appropriate support is available to sustain psychosocial recovery in the longer term.

## Influence of emotional well-being on satisfaction with recovery

A relative importance analysis[14] (RIA) was conducted to examine whether different domains of recovery uniquely contributed to community members' overall satisfaction with recovery. Survey respondents rated their levels of agreement to statements regarding recovery in multiple domains on the following scale: Completely disagree (1), Disagree (2), Neither agree nor disagree (3), Agree (4), Completely agree (5).

Table 8 presents these results, demonstrating that relative to the other items, emotional recovery had the greatest contribution to overall satisfaction with recovery, predicting approximately 40 per cent of overall satisfaction. This means that community members are far more likely to feel satisfied with their overall recovery if they feel emotionally recovered. To put this finding in perspective, of the items listed in Table 8 only feelings of emotional recovery (39.68%), physical recovery (14.44%), financial recovery (9.82%), and availability of support at the right time (5.71%) were found to significantly contribute to overall satisfaction. This does not suggest that physical or financial recovery are not important, but demonstrates psychosocial recovery is considerably more influential on people's overall satisfaction with their recovery. This theme was reflected in the tone of discussions with community members, as people repeatedly referred to the emotional toll of the fires and the need for ongoing support to manage this.

While the other items in Table 8 are still related to overall satisfaction, they are not significant contributors to overall satisfaction. Further information can be found in Appendix 5.

There are a number of important caveats related to these analyses. Only 162 community members completed the survey, which is not representative of the population affected by the fire. The survey was also administered almost two years after the fire, and so reflects the relative importance of various domains on long-term satisfaction with recovery. Different levels of importance across the various domains may be evident during the initial recovery phase when people are more focused on economic and physical recovery activities.

**Table 8. Relative contribution of aspects of recovery on overall satisfaction**

| Items | Percentage of relative importance |
|---|---|
| I feel I have emotionally recovered from the fires | 39.7* |
| I feel I have physically recovered from the fires (i.e. clean up and repairs) | 14.4* |
| I feel I have financially recovered from the fires | 9.8* |
| I feel I would like ongoing support to continue to recover from the fires | 7.2 |
| The support I wanted was available at the time I wanted it | 5.7* |
| Public and private green spaces, gardens, and parks have been restored | 4.8 |
| I feel better prepared to emotionally cope with another fire or natural disaster than before the 2015 fire | 3.3 |
| My local community has been supportive during the recovery period from the fires | 3.2 |
| I feel better prepared to cope with the clean-up/repairs associated with another fire or natural disaster than before the 2015 fire | 3.1 |
| The community is more supportive as a result of the fire | 2.6 |
| As a community we are able to support each other to continue to recover from the fires | 2.3 |
| I am concerned about my ability to respond to future disasters | 2.2 |
| I feel better prepared to financially cope with another fire or natural disaster than before the 2015 fire | 1.8 |

[14] The software R was used to calculate relative importance weights.

## 3.6 Natural environment recovery

Examining the extent to which the recovery of the natural environment was supported involved examining the range of activities and initiatives implemented to achieve a number of outcomes. This included examining whether healthy levels of habitat had been restored, whether public and private greenspaces were able to meet community needs, and that environmental health risks had been minimised.

### Restoration of healthy levels of habitat

According to Natural Resource Management (NRM), the overarching goal with natural recovery was to recover natural resources, and the recovery process proceeded in three main phases:

1. Attending community meetings to understand community needs, collecting information using standardised questions (3-4 weeks). Mobile Recovery Centres provided information and support to community members on windbreaks, land management topics, soil health, native vegetation, pest plant and animal control, property planning and a free property visit.
2. Understanding which programs and services to implement to support environmental recovery, such as whether field days need to run, and which property visits need to take place (2-3 months).
3. Transitioning back to business as usual (3-4 months).

Recovery efforts on the recovery of biodiversity have largely been successful, and NRM have ensured that native vegetation has been replanted and allowed to recover. Although we have been unable to obtain specific data, it was clear that the community was provided with appropriate knowledge, resources, and support for natural recovery.

In 9 days, PIRSA had completed all requests for assessment, destruction, disposal, including follow-up visits. PIRSA began assessing dead and dying stock on the day of the fire, euthanizing and burying all stock within a week. Sites were provided for fire-affected carcass disposal. Most community members are satisfied with the support provided in the removal of burnt stock (72%), with about 7 per cent dissatisfied.

The Pinery fire mainly affected native Mallee and Box Eucalypt trees growing in the scrub and along the roadside. The community were advised not to disturb these trees to improve their prospects of survival. Initiatives run by farming groups to address the movement of soils with barren ground and high winds including harrowing of the soil in grids and trying different planting regimes and methods have largely been successful.

A range of activities also helped to restore biodiversity, including the free provision of native seedlings to those affected by the Pinery fire to help properties, the local landscape, and fauna recover from the fire. The RSPCA deployed teams to manage injured wildlife and small animals. Communities were advised to protect and preserve paddock trees. The Department of Environment, Water, and Natural Resources provided shelterbelt trees, individually tailored to peoples' properties.

A number of community events were held to aid environmental recovery. Approximately 3000 native plants, stakes and guards were provided to assist in re-greening the fire scar. NRM staff at Gawler coordinated supply of 18000 native plant seedlings for fire-affected families. Approximately 10,000 trees grown by several volunteer groups were distributed at no charge to landholders by NRM. Garden plants were donated by Barossa Bush Gardens, and Rotary helped to plant the trees. Churches in Adelaide Plains provided garden vouchers.

Help was also provided for the scheduled watering of the trees. NRM staff attended the tree distribution day to provide advice on available services as well as aid money. Approximately 500 Habitat for Humanity volunteers helped to restore vegetation on 45 affected properties, which included planting almost 100 seedlings in 51 days. Close to 800 people attended a series of field days, workshops, and events, convened to address land management issues for primary producers and homeowners. Measures were also enacted to control threats to the regenerating native vegetation, such as rabbits and browsing animals. Community members were advised to control rabbit numbers.

The SRO survey also found high satisfaction regarding technical information around soils, stock, and watercourses amongst farmers. The survey also indicated that farmers were mostly satisfied with advice and assistance in restoring the natural landscape.

More than half of those who completed the online survey had trees on their property and gardens destroyed or damaged. Most of those who needed advice and support on domains of natural recovery were able to access it. This included advice on gardens, fire safe garden design and plant selection. High levels of satisfaction were found amongst those who

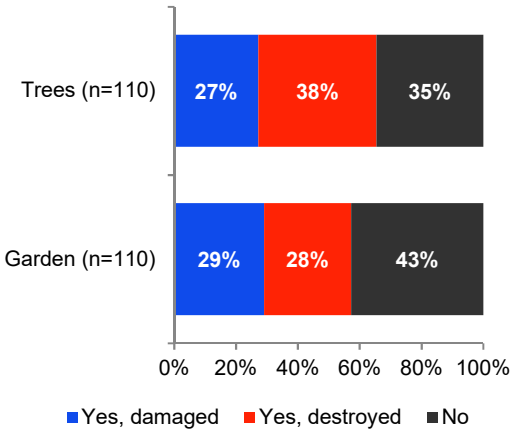
received support in repair of fences and gardens, and the demolition of burnt buildings. Levels of satisfaction around natural recovery was mixed amongst community members. Approximately half of survey respondents were satisfied with recovery of public and private green spaces (54%), and close to 70 per cent felt that clean up and repairs were complete. As such, there is good indication that people have been able to access appropriate advice regarding garden recovery.

Regarding the restoration of biodiversity, NRM have received positive feedback from the community, and the recovery process has gone well. Multiple stakeholders and community members reported difficulty in accessing government funding for recovery activities. Community members had to pay for repairs out of their own pockets and then apply for reimbursement. A number of community members struggled with this process, as they did not have funds available. As such, this may have impacted recovery.

Although farming has resumed, interviews with community members indicated that some farmers have not re-established their crops. Although it is difficult to identify the cause of this, it may be the result of under-insurance. Some community members also indicated that farms struggling before the fire were more likely to have struggled in their recovery. The loss of shelterbelts for paddocks, houses, and gardens will be an ongoing process of recovery. NRM indicated that it might take five years before vegetation returns to pre-fire health.

Similarly, not all community members have re-planted and re-grown their gardens. The online survey found that some individuals were unaware of supports available in the repair of gardens, but would have utilised it had they known. Only about half of survey respondents (50%) feel that green spaces, gardens, and parks have been restored.

**Figure 18. Percentage of damage sustained to different aspects of the natural environment**




Source: Online survey of Pinery community recovery, 2017

## Minimising risk of adverse impacts of future disasters

The Country Fire Service (CFS) collaborated with NRM to run a number of programs focused on disaster prevention, based on community needs. The community engagement program provided community members with information about bushfire preparedness. For instance, farmers were advised on how to adapt farming practices on days of high fire danger. The CFS community engagement officer is also a member of the incident management team, and relays information to the community and public to encourage preparedness. A number of community members reflected positively on the efforts of the CFS in this regard. The 'Firey Women' program was regarded highly during interviews, and has provided knowledge and fire-fighting skills to women in the community.

In addition, fact sheets and information for bushfire-affected waste, asbestos, chemicals, and CCA-treated wood is available on the EPA website, along with information about proper waste disposal. The EPA website also provided factsheets on environmental issues. No waste levy was required for fire-affected waste to be taken to landfill sites. EPA staff provided information on best practice to assist local councils.

Approximately 61 per cent of community members surveyed felt better prepared to cope with repairs associated with another fire or disaster. While most of those surveyed received information about damaged trees, asbestos, and damaged roads, there remains a large proportion of people uninformed on these

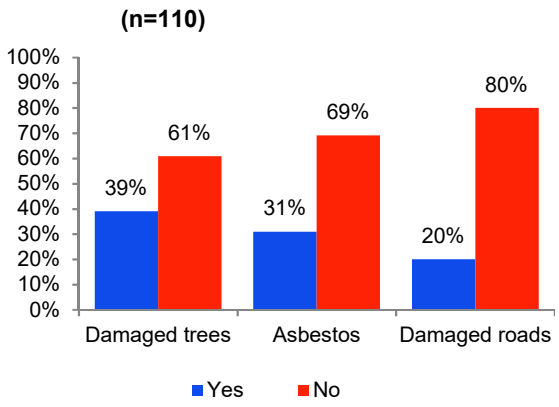
dangers, ranging from 61 per cent to 80 per cent (Figure 19). Most of those who did receive information about environmental risks found the information helpful or somewhat helpful. Of those who did not receive information environmental risks, most would have preferred to receive information about how to manage damaged trees.

The survey found a moderate degree of resilience in the natural domain, with about 60 per cent of community members surveyed feeling better prepared to cope with repairs following another fire. Approximately 10 per cent felt unprepared. Interviews with community members and stakeholders revealed a range of resilience activities, including farmers separating hay sheds to prevent the spread of fires, and the installation of additional tanks to aid fire-fighting efforts.

SAFECOM released the South Australian Government Radio Network (SAGRN) Pinery Fire Review in September 2016, and recommended enhancing the public warning systems by including maps to supplement text-based warnings.

People were encouraged to download the South Australian Government's new emergency services warning system, Alert SA. The CFS also launched a campaign entitled 'Bushfires will happen: Plan to survive'. The central message was a new online tool called 'My Plan to Survive', which includes a downloadable personal plan and checklist that can be completed, saved, and shared with family and friends.

**Figure 19. The percentages of respondents who received information about environmental risks**




Source: Online survey of Pinery community recovery, 2017

Interviews indicated that community members underestimated the potential for a catastrophic fire, and could have been better prepared, but this differed between communities. For instance, Owen have invested in water tanks for fire trucks to fill up, as well as generators to power the town hall in the event of a fire. Community members in Hamley Bridge reported considerable amounts of uncleared vegetation and hazardous rubbish in residents' yards. The CFS indicated that although there are certain communities still struggling and underprepared for future disasters, people in general are resilient to future threats.

## Asbestos identification and management

Asbestos safety and management repeatedly emerged as an issue in our community consultations as well interviews with several key state and local government stakeholders.

The survey found low knowledge of health risks associated with exposure to asbestos. This may be problematic in future disasters. Less than half of those surveyed indicated receiving information about risks associated with asbestos (31%), and approximately half of those who did not were not interested in receiving information. Community members also reported receiving conflicting information about appropriate asbestos disposal. The costs associated with asbestos disposal have also impeded recovery in this domain.

Some community members stated that they received conflicting messages on the issue of asbestos. In three out of the four discussion groups organised in the Pinery region, community members expressed lack of clarity about how to deal with asbestos during clean up and rebuilding phase. Some were initially they were told they could bury the debris from their damaged or destroyed properties, which conflicted with information later provided through agencies about asbestos management on their properties.

> *We received mixed messages. People were told that they could do certain things like burying debris from a house, but then someone came in and told them not to….initially agencies came in and told people to clear asbestos as well. One farmer reported receiving a $10k fine and another person got fined for cleaning up alongside the property.*
>
> Community member

Some state government representatives agreed that there was lack of clarity about the appropriate management of asbestos. Asbestos

identification was also identified as a key challenge.

> *We had a major problem identifying whether damaged buildings had asbestos. The problem for us was not removal but the identification. A combination of state and local government staff worked together to identify whether debris had asbestos.*
>
> State government representative

Together this highlights the importance of raising awareness and disseminating accurate information on asbestos safety and management not only at the community level but also amongst the relevant state and local government staff.

## Fire damaged trees

The presence of severely damaged trees on both private property and public roadsides are an ongoing recovery issue. There appears to be a tension between the regulations around tree removal and leaving burnt vegetation for natural recovery, and the psychosocial and financial recovery needs of the communities affected by the Pinery fire.

The evaluation found conflicting views about what constitutes the appropriate management of the issue of fire-damaged trees on public roadsides.

NRM referred to the importance of leaving burnt vegetation for natural recovery, as it provides shelter for germinating seedlings and protection from grazing animals. It is not clear from the evaluation whether this message was communicated effectively to the community.

Community members overwhelmingly reported dead trees as a trigger for emotional trauma.

> *It is a constant reminder every time we venture beyond our front gate, to be confronted by a cemetery of trees, is not good for moving on and putting the event behind us … The support we need is to be able to remove this visual reminder of that disastrous day. We can't do it ourselves as we don't own the trees.*
>
> Community member

Dead or fire-damaged trees overhanging roads were identified as a public health issue, as many overhang roads where there is a danger of falling onto passing cars. Community members indicated that the strong regrowth of roadside vegetation poses a considerable risk in the event of a future fire, largely because roads may no longer serve as effective firebreaks.

A number of primary producers raised dead branches falling into and contaminating crops.

> *The dead trees continually shed branches which blow considerable distances into our crops, where they can become hidden until harvesting machinery arrives, and foreign matter in the form of small sticks becomes mixed with the grain. On delivery of this grain our delivery tolerance to this foreign matter is nil, resulting in rejection of the load, returning to farm, cleaning of the entire load and freighting back to delivery point to try again. This is a huge impost and will continue for many years as these trees gradually break down and eventually will cease to be a problem.*
>
> Community member

Community members noted that it is costly to fell damaged trees, and in most cases is not insured or insurable.

The recovery supported an Aleppo pine tree felling initiative under an arrangement with the Adelaide Plains Council and Light Regional Council, whereby the Councils paid tree fellers on behalf of participating landowners, who have committed to repay the Council the amount paid on their behalf. The reduced hourly rate of for this work was conditional upon this payment arrangement. The offer was promoted during the week of 5 August 2016 to land owners in the two Council areas. Only three property owners took up the offer. The Local Recovery Coordinator believed that this initiative would have been more beneficial if made available earlier in the recovery process.

Additionally, UTS' online survey indicates that 40 per cent of primary producers are unaware that advice and assistance was available for removing fire-damaged trees. This may have also affected uptake of the initiative.

# 4 Key findings & recommendations

Overall, the Pinery fire recovery was implemented in accordance with a clear plan based on the overarching principles, outcomes and indicators of success outlined in the Draft National M&E Framework and the *National Principles for Disaster Recovery*.

A number of contextual factors positively affected the overall recovery, including:

- Geographical proximity of the Pinery fire to Adelaide
- Capacity to embed learnings from the Sampson Flat fire
- Strong crop yield in 2016
- Close-knit agricultural communities

These recommendations provide a range of opportunities to learn from the Pinery fire recovery that may guide future recovery efforts in South Australia. They are not indicative of major structural or operational deficiencies in the implementation of the Pinery fire recovery, but present opportunities for continuous learning and improvement.

## Governance

The various government and non-government agencies with recovery responsibilities were well coordinated, and strong leadership from the State Recovery Office brought together the recovery effort. The strength of the governance and operational structures guiding and supporting recovery facilitated effective coordination of recovery activities.

While state government coordination was highly effective and the SRO's preparation was recognised, not all agencies with a role in disaster recovery have comprehensive and robust plans for recovery, or capacity and resources to implement them.

Few mechanisms are in place to assess recovery outcomes, reflected in changes across various domains, rather than just what activities were delivered.

**Rec 1.** Build capacity across government in strategic recovery planning, incorporating the national Monitoring and Evaluation Framework.

**Rec 2.** Develop tools and resources that can be adapted to any recovery effort to help fast track the initial stages and to ensure a focus on outcomes is established.

**Rec 3.** Develop a minimum data set for each domain to ensure the availability of appropriate data to measure outcomes and to embed monitoring and evaluation processes.

Effective support by NGOs and government agencies across the four domains during the government-led assistance phase of the recovery have largely enabled the affected communities to lead their ongoing recovery.

While the relationship between the SRO and a number of key NGOs is strong, there are opportunities for NGOs and the SRO to continue to work together to ensure the NGO effort during recovery is coordinated, efficient and based on a clear identification of community recovery needs.

There were also some concerns about the transparency and accountability around spontaneous fundraising. Opportunities could be explored with NGOs, to improve the way these funds are managed and distributed. For example, utilising SERF's expertise.

**Rec 4.** Support NGOs to strengthen workforce capacity for recovery planning and to develop measures that ensure programs are outcome focused and based on clear identification of recovery needs.

**Rec 5.** Work with the NGO sector to identify opportunities to improve the management of donated funds.

One of the objectives of disaster recovery is to help communities reach a point where the community has the capability and capacity to manage its own recovery. It was observed that while the demand for Local Recovery Centre services slowed, the community-led activities were starting to 'ramp up'. There was a perception that the momentum that was building around community-led activities would have been more sustainable with continued support.

**Rec 6.** Review the transition process back to regular services to ensure the sustainability of community development programs and community recovery.

**Rec 7.** Support local government sector in the development of council recovery plans so that they can provide quick and effective support to their communities following a disaster.

A number of community members said that they received conflicting information in the early stages of the recovery about the roles and responsibilities of different agencies and how to access them. A few mentioned the potential usefulness of a comprehensive 'one-pager' as a reference point for 'knowing where and how to start'.

Overall, there were high levels of satisfaction among both stakeholders and community members about the progress of recovery in each of these four domains. There were no major issues identified in relation to the implementation of the recovery, and the extent to which recovery outcomes have been achieved.

However, issues were raised in relation to each of the domains that warrant ongoing attention and consideration.

## Built environment recovery

Adequate support was provided to manage ongoing rebuilding to affected community members, businesses and primary producers.

There was high-level community satisfaction with the prompt restoration of essential services and suitable housing following the fire.

Issues were raised around the accuracy and consistency of messaging about rebuilding and restoration regulations, and debris management, particularly asbestos management.

**Rec 8.** Improve the timing, consistency and accuracy of messaging about rebuilding regulations.

## Economic recovery

There is a lack of comprehensive evidence to assess whether there is enhanced economic resilience in the fire-affected communities.

Currently there is no precise data on how appropriately are people insured in the Pinery region. However, many state government and NGO representatives have expressed that non-insurance and under-insurance remains an issue in the region.

**Rec 9.** Explore strategies to ensure the community, businesses and primary producers have appropriate levels of insurance to aid recovery from disasters.

The survey findings and stakeholder feedback suggest that the increase in the uptake of disaster management or business continuity plans has not been substantial after the Pinery fire.

**Rec 10.** Explore strategies to encourage community, businesses and primary producers to undertake appropriate business continuity and disaster management planning.

## Social recovery

The evaluation found that community members are far more likely to feel satisfied with their overall recovery if they feel their emotional recovery is on track.

The evaluation suggests that communities do not feel emotionally recovered and there is a demand for continued assistance to support ongoing emotional recovery.

Community members and other stakeholders across the evaluation felt that there were opportunities to improve the coordination of evidence-based mental health support throughout the recovery.

Overall, community-led support was very valuable, and supported ongoing recovery. Low levels of mental health literacy and high stigma may mean that community members did not always seek appropriate support.

Some children and young people were not provided with timely support, due in part to the Pinery fire coinciding with the end of the school year. This has been recognised and strategies are being out in place to address this.

**Rec 11.** Embed evidence-based, outcome focused community led mechanisms into local recovery plans. E.g. the Pinery Fires Wellbeing and Resilience Project in collaboration with SAHMRI; Men's Watch.

**Rec 12.** Embed a contingency for supporting children and young people in the event of disasters occurring outside of the school term.

## Natural environment recovery

The evaluation findings suggest low knowledge of health risks associated with exposure to asbestos, how to identify asbestos and appropriately manage it. It was reported that community members received conflicting information about asbestos management during the recovery. The costs associated with asbestos disposal may have also been a barrier to appropriately dealing with asbestos during clean up and rebuilding post-fire.

**Rec 13.** Disseminate accurate information on asbestos safety and management (including roles and responsibilities) targeted for community, state and local government staff.

The presence of fire-damaged trees is an ongoing issue in terms of a trigger for emotional trauma, a perceived environmental hazard and a financial burden for primary producers.

There is a tension between the regulations around tree removal (natural environment outcomes) and the psychosocial and economic recovery needs of the communities affected by the Pinery fire.

**Rec 14.** Clarify and communicate the regulations that apply to managing fire-damaged trees.

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# Appendix 1: Stakeholders consulted

| | Organisation |
|---|---|
| 1. | State Recovery Office |
| 2. | Wakefield Council |
| 3. | Light Regional Council |
| 4. | Adelaide Plains Council |
| 5. | Clare and Gilbert Valley Council |
| 6. | SA Housing |
| 7. | Engineering Functional Support Group |
| 8. | Emergency Relief Functional Support Group |
| 9. | Department of State Development |
| 10. | Department of Transport Planning and Infrastructure |
| 11. | Country Fire Service (CFS) |
| 12. | SA Health |
| 13. | Natural Resource Management Board |
| 14. | Primary Industries and Regions SA (PIRSA) |
| 15. | Insurance Council of Australia |
| 16. | Uniting Church SA—Disaster and Recovery Ministries |
| 17. | Blaze Aid |
| 18. | Lions Club |
| 19. | Habitat for Humanity |
| 20. | Australian Red Cross |
| 21. | Bendigo Bank |
| 22. | St Vincent's de Paul Society (SA) |
| 23. | Samaritan's Purse |
| 24. | Rotary Club |
| 25. | Global Care Counselling |
| 26. | Stockport Community Association |

# Appendix 2: Online survey of community recovery from the 2015 Pinery fire

| | Question | Scale | Outcome/Indicator |
|---|---|---|---|
| 1. | In which council area did you live at the time of the Pinery fire (November 25 – December 1 2015)? | 1. Adelaide Plains<br>2. Clare and Gilbert Valleys<br>3. Light Regional Council<br>4. Wakefield Regional Council<br>5. None of the above | Demographic |
| 2. | Are you a … | Primary producer<br>Business owner in the Pinery area<br>Neither | Demographic |
| 3. | After the Pinery fire did you receive any assistance with?<br>Fencing assistance<br>Assistance to repair farm equipment<br>Assistance to repair farm buildings<br>Demolition of burnt buildings<br>Assistance to repair roads on property<br>Removal of fire damaged trees<br>Disposal of dead stock | 1 Yes<br>2 No, did not require assistance<br>3 No, did not know assistance was available | Operational, financial and environmental skills and knowledge to restore production |
| 4. | How satisfied were you with the assistance you received? | <select one><br>1. Extremely satisfied<br>2. Satisfied<br>3. Somewhat dissatisfied<br>4. Not at all satisfied | Farms have infrastructure and equipment to operate at full function / support operations |
| 5. | If you knew assistance was available would you have accessed it? | 1 Yes definitely<br>2 Maybe<br>3 Probably not | Farms have infrastructure and equipment to operate at full function / support operations |
| 6. | To what extent have you been able to restore the following to support ongoing operations on your farm?<br>Necessary equipment<br>Farm buildings<br>Stock | Completely restored<br>Mostly restored<br>Somewhat restored<br>Not restored at all | Farms have infrastructure and equipment to operate at full function / support operations |

| | Question | Scale | Outcome/Indicator |
|---|---|---|---|
| 7. | What have been the barriers / reasons for not being able to restore [a. necessary equipment/ b. farm buildings/ c. stock] | <Open text> | Farms have infrastructure and equipment to operate at full function / support operations |
| 8. | Would you say your business is better off or worse off financially than it was prior to the fires? | <select one><br>Worse off<br>About the same<br>Better off | Businesses and farms operating sustainably, to full productivity, and in line with broader economic trends |
| 9. | To what extent is this related to the fires? | <select one><br>Not related to the fires<br>Partially related to the fires<br>Highly related to the fires | Businesses and farms operating sustainably, to full productivity, and in line with broader economic trends |
| 10. | Did your business/farm have a disaster recovery plan prior to the fires? | Yes<br>No | Proportion of farmers, business owners, not-for-profits who have developed dynamic disaster resilience and continuity plans |
| 11. | How useful was it in supporting the recovery of your business/farm? | 1. Extremely helpful<br>2. Helpful<br>3. Somewhat helpful<br>4. Not at all helpful | Proportion of farmers, business owners, not-for-profits who have developed dynamic disaster resilience and continuity plans |
| 12. | Does your business have a disaster recovery plan now? | Yes<br>No | Proportion of farmers, business owners, not-for-profits who have developed dynamic disaster resilience and continuity plans |
| 13. | Did your business have disaster insurance prior to the fires? | Yes<br>No | Proportion of businesses with adequate insurance in place relative to pre fire |
| 14. | Does your business have disaster insurance now? | Yes<br>No | Proportion of businesses with adequate insurance in place relative to pre fire |
| 15. | Since the Pinery fire, do you feel your business/farm is better placed to cope with future disasters? | 1. Yes<br>2. No<br>3. Don't know | Adequate mitigation practices for risks and threats |
| 16. | Was your home damaged in the Pinery fire | 1. Yes, damaged<br>2. Yes, destroyed<br>3. No | Community housed in suitable accommodation in their location of choice |

| | Question | Scale | Outcome/Indicator |
|---|---|---|---|
| 17. | Did you require accommodation assistance following the fire? | 1. Yes<br>2. No | Community housed in suitable accommodation in their location of choice |
| 18. | How satisfied were you with the assistance provided? | 1. Extremely satisfied<br>2. Satisfied<br>3. Somewhat dissatisfied<br>4. Not at all satisfied | Community housed in suitable accommodation in their location of choice |
| 19. | Did you have to rebuild any of the following after the fire (select all that apply)?<br>House<br>Garden<br>Other (specify) | 1. Yes<br>2. No<br><br>Other (open) | Landowners have effective knowledge, skills and resources to build fire safety |
| 20. | Did you receive any advice or support to assist your rebuild of<br>House<br>Garden<br>Other (specify) | 1. Yes<br>2. No, did not require assistance<br>3. No, did not know assistance was available | Landowners have effective knowledge, skills and resources to build fire safety |
| 21. | How satisfied were you with the advice / support received in rebuilding? | 1. Extremely satisfied<br>2. Satisfied<br>3. Somewhat dissatisfied<br>4. Not at all satisfied | Landowners have effective knowledge, skills and resources to build fire safety |
| 22. | Would you have used it if it was available? | 1 Yes definitely<br>2 Maybe<br>3 Probably not | Landowners have effective knowledge, skills and resources to build fire safety |
| 23. | Why were you dissatisfied with the advice/support received? | <open> | Landowners have effective knowledge, skills and resources to build fire safety |
| 24. | Do you still live in the Pinery region? | 1. Yes<br>2. No | Community housed in suitable accommodation in their location of choice |
| 25. | To what extent are you satisfied with your current housing situation? | 1. Extremely satisfied<br>2. Satisfied<br>3. Somewhat dissatisfied<br>4. Not at all satisfied | Community housed in suitable accommodation in their location of choice |

| | Question | Scale | Outcome/Indicator |
|---|---|---|---|
| 26. | Please indicate if your house currently has any of the following safety features?<br>a. Metal gutter guards<br>b. A fire-rated roof<br>c. A clearing on the fire-prone side of the house<br>d. An emergency water supply<br>e. An emergency electricity supply/generator<br>f. Other (specify) | 1. Yes<br>2. No | Rebuilt properties have increased fire safe design |
| 27. | Please indicate if your house currently has any of the following safety features prior to the 2015 fires?<br>a. Metal gutter guards<br>b. A fire-rated roof<br>c. A clearing on the fire-prone side of the house<br>d. An emergency water supply<br>e. An emergency electricity supply/generator<br>f. Other (specify) | 1. Yes<br>2. No | Rebuilt properties have increased fire safe design |
| 28. | As a result of the fires, did you receive information from?<br>a. Council<br>b. Country Fire Service<br>c. Recovery newsletters<br>d. Recovery website<br>e. Recovery Centre<br>f. State Recovery Office webpage<br>g. Twitter<br>h. School<br>i. Word-of-mouth from friends/family<br>j. General online search | 1. Yes<br>2. No | Access to a broad range of support |
| 29. | Of the information you received, what was the most useful and what was the least useful? | 1. Most useful<br>2. Least useful | Satisfaction with a range of support |

| | Question | Scale | Outcome/Indicator |
|---|---|---|---|
| 30. | Did you or your family receive support after the 2015 Pinery fire from any of the following?<br>a. GP<br>b. Community health services<br>c. Mental health service<br>d. Other community organisations<br>e. Recovery hotline<br>f. Other telephone helpline<br>g. Recovery Centre<br>h. Support through the school<br>i. Church counselling/support<br>j. Support through community networks<br>k. Support from friends / neighbours<br>l. Support from family | 1. Yes<br>2. No, didn't need it<br>3. No, didn't know it was available | Awareness of psychosocial support<br><br>Access to a broad range of support |
| 31. | Of the support you received, what was the most useful and what was the least useful? | 1. Most useful<br>2. Least useful | Satisfaction with a range of support |
| 32. | Would you have used it if it was available? | 1 Yes definitely<br>2 Maybe<br>3 Probably not | Satisfaction with a range of support |
| 33. | Did you continue to access support for your child outside of the school term? | 1. Yes<br>2. No, they didn't need it<br>3. No, it wasn't available | Students receive continuous support to meet their health and well-being needs |
| 34. | As a result of the fires, do you think household items are? | Cheaper<br>More expensive<br>About the same | Community satisfaction that adequate goods and services are affordable and accessible |
| 35. | How strongly do you agree or disagree with the following statements:<br>My local community was supportive during the recovery period<br>It was easy to find psychological/emotional support following the bushfires<br>A range of different types of support were available following the fires<br>The community is more supportive as a result of the fire<br>I am concerned about my ability to respond to future disasters<br>I feel better prepared to cope with another fire or natural disaster than before the 2015 fire | 1. Completely disagree<br>2. Disagree<br>3. Neither agree nor disagree<br>4. Agree<br>5. Completely agree | Community networks functional and supportive<br><br>Community has increased resilience to respond to future disaster events |

| | Question | Scale | Outcome/Indicator |
|---|---|---|---|
| 36. | Did you have children attending schools in the region during the Pinery fire | 1. Yes<br>2. No | Students receive continuous support to meet their health and well-being needs |
| 37. | How satisfied are you with the overall recovery of public and private green spaces, gardens, and parks? | Very satisfied<br>Satisfied<br>Somewhat dissatisfied<br>Not at all satisfied | Parks and recreational facilities fully operational |
| 38. | Since the Pinery fire have you received any information about any of the following environmental health risks?<br>a. Fallen trees<br>b. Asbestos<br>c. Damaged roads<br>d. Fallen powerlines | 1. Yes<br>2. No | Community aware of potential environmental health risks and how to address them (e.g. damaged trees, asbestos) |
| 39. | How would you rate your satisfaction in being able to manage the risks associated with the bushfires (e.g., fallen trees, asbestos)? | Extremely satisfied<br>Satisfied<br>Somewhat dissatisfied<br>Not at all satisfied | Environmental health risks managed |
| 40. | How old are you? | 16-19<br>20-29<br>30-39<br>40-49<br>50-59<br>60-69<br>70-79<br>80+ | Demographic |
| 41 | Are you? | Female<br>Male<br>Other | Demographic |

# Appendix 3. Program logic

Figure 20 presents high-level program logic for the Pinery fire recovery, providing a 'map' of the key elements that constitute the recovery program, and how they contribute to the intended recovery outcomes in the built environment, economic, social and natural environment domains.

**Figure 20: Program logic for Pinery fire recovery**

| | Inputs & resources | Outputs | | Immediate outcomes | Intermediate outcomes | Ultimate outcomes |
|---|---|---|---|---|---|---|
| BUILT | • Government support for the restoration of essential services<br>• NGOs assist with clean up | • Prompt restoration of essential services and road access<br>• Dealing with hazardous materials and asbestos, fire safety<br>• Collate impact data<br>• Manage the Pinery fire Relief Appeal | • Practical assistance and information provided for clean-up and critical repairs<br>• Assistance provided with planning, rebuilding, insurance and design issues, including rate and fee relief and fast-tracking/adapting redevelopment processes | • Community members have access to appropriate information to assist with their recovery<br>• Community have access to essential services, eg. telecommunications; power; gas; sewer; water<br>• Community members have a safe place to live | • Community members have skills, knowledge and resources to manage on-going planning, rebuilding, insurance and design processes (S)<br>• Roadsides and public lands monitored and maintained (S)<br>• Landowners have skills, knowledge and resources to re-build in a fire-safe way with regard to local disaster risks (R)<br>• Community members, businesses and landowners progress smoothly through planning and approval processes (S) | • Community housed in suitable accommodation in their location of choice<br>• Community facilities are functioning to meet the needs of the community<br>• Farms have infrastructure and equipment to operate at full function |
| ECONOMIC | • RDA, PIRSA, agricultural industry groups and networks, agribusiness provide resources for advice and support<br>• Clean-up recovery grants for farmers | • Assess advice and support needs of local businesses<br>• Government agencies prepare revised valuations of affected properties and provide financial assistance | • Publicise the importance of business continuity planning<br>• Establish primary producers' network | • Community members, business owners and farmers have access to financial assistance<br>• Local spending and investment encouraged through promotion of local businesses, industries, service providers and support services<br>• Advice, support and technical information is available to local businesses and farmers<br>• Information and ideas on primary production shared through primary producers' network | • Farmers and business owners have the operational, financial and environmental knowledge and skills to restore production<br>• The goods and services the community needs are available<br>• Community members have adequate income to acquire the goods and services they need<br>• Support is available for businesses and not-for-profits to develop disaster resilience and continuity plans | • Businesses and farms operating sustainably, to full productivity, and in line with broader economic trends<br>• Community members able to meet their material and service needs and participate in the local economy<br>• Business and not for profits have in place adequate mitigation practices for risks and threats |
| SOCIAL | • Government support for the recovery centre and relief grants, contribution to Pinery fire Relief Appeal, surge capacity for State Recovery Office; waived or reduced a range of fees for services including waste levy and replacement of documents<br>• Local Recovery Coordinator, and the Community Development Officer<br>• State Emergency Relief Fund<br>• Financial assistance from Bendigo Bank's Community Enterprise Foundation<br>• Financial assistance, service support and donations of second hand goods provided by various NGOs<br>• Financial and pastoral assistance from Churches<br>• SA Health information re child behaviours in recovery | • Collate and distribute information relevant to recovery:<br>– Social, emotional and physical wellbeing<br>– Bushfire safety precincts and bushfire survival and planning<br>• Distribute SERF monies, clean-up recovery grants, donations and access to donated and second hand goods<br>• Trends in substance abuse issues, domestic violence and suicide risk monitored<br>• Community members from a range of segments of the community are consulted about their service and support needs | • Compassionate, counselling and support needs are assessed and support is available (including outreach)<br>• Encouragement and support community-initiated events and networks<br>• Schools distribute fact sheets provided by SA Health re child behaviours in recovery<br>• Referral networks for case management established<br>• Subsidised/ donated fire-fighting clothing for use with farm fire-fighting units distributed<br>• Capacity building activities provided for community, workers and volunteers re self-care and providing psychosocial support | • Both community and individual-level recovery needs are identified (both type of support and mode of delivery)<br>• Community members are aware of available support<br>• The community has access to a broad range of services for diverse support needs<br>• Students are able to go to school and receive education and other support<br>• Families have access to advice and information about how to support their children<br>• Opportunities are available for community members to socially connect and participate | • Community members accessing support services<br>• Students receive continuous support to meet their health and well-being needs<br>• Families are capable of providing ongoing psychosocial support for children<br>• Community members supporting their peers and neighbours<br>• Community members participating in social and community activities and events (both pre-existing and new) | • Community health and wellbeing is restored<br>• Effective community networks are operating<br>• Community has increased resilience to respond to future disaster events |
| ENVIRONMENT | • Availability of DEWNR assistance for landowners<br>• Donation of Plains Community Churches nursery vouchers<br>• Growing and distribution of seedlings by volunteers | • DEWNR visits, technical advice, and dissemination of information<br>• Information and events for land holders regarding regeneration of natural environment<br>• Agencies provided services in restoration of the natural environment | • Consultation and engagement with nurseries and plant propagators to encourage input long term<br>• Information provided to community about potential environmental health risks and how to address them | • Natural and non-natural green environment safe for the community<br>• Community aware of potential environmental health risks and how to address them (e.g. damaged trees and asbestos) | • Knowledge, resources and support available to:<br>– re-establish roadside vegetation<br>– restore habitat corridors, including plant propagation<br>– Restore public and private greenspaces<br>• Community access advice and assistance with garden recovery, including fire safe garden design and plant selection is available<br>• Environmental health risks managed | • Healthy levels of habitat restored<br>• Public and private greenspaces, gardens and parks meet community needs<br>• Risk of future environmental health risks in the event of a fire reduced/mitigated |

# Appendix 4: Overview of social recovery activities

| Program | Timing | Description |
|---|---|---|
| Women's Resilience Days | July-Dec 2016 | Event-1: 63 fire affected women visited 3 tourist attractions around Barossa<br>Event-2: Bendigo bank event focusing on personal wellbeing and resilience |
| Art Express | June 2016- March 2017 | Freeling primary school mosaic art project<br>Hamley Bridge Community Association to develop memorial for Janet Hughes-their community member perished in the fire |
| Make-up &Self Esteem Workshop | October 2016 | 1 workshop aimed at bringing young women together |
| Community Events and Functions Support | April 2016- March 2017 | Horse Owners get Together (25 participants)<br>Men in Shed group held a Couples Dinner evening (60 participants)<br>Girls Night Out event (115 participants)<br>Blue Light Disco<br>Parents afternoon teas in 6 primary schools<br>Dr Rob Gordon talks on child recovery<br>8 community events marked the 1st fire anniversary |
| Establish and Facilitate Pinery Fire Recovery Community Action Group (PFRCAG) | March 2016- March 2017 | PFRCAG received 8 EOIs seeking funding for recovery events/projects. 7 received some support<br>PFRCAG's Resilient Leaders Training covering preparedness for all hazards and responding to them |
| Fire Awareness/Preparedness | March 2016- March 2017 | 4 Fiery Women's workshops<br>Fire Season Ready family Expo (200 people attended the event) |
| Greening the Landscape | January 2016- March 2017 | Re-greening the Fire Scar event (185 landholders participated)<br>3 volunteer groups supported the community in growing plants for garden revegetation<br>The Plains Community Churches distributed $100 vouchers to people who lost their gardens to fire<br>Adelaide & Mount Lofty Ranges Natural Resource Management coordinated a Plant Give-away at the Barossa Bush Gardens Open Day |
| Gals Aloud Workshop | March 2016 | 58 participants<br>15 initiatives identified and prioritised<br>This workshop provided further strategic direction for the Community Recovery Fund program |

| Program | Timing | Description |
|---|---|---|
| Re-Building/Construction Information Sessions | March 2016-<br>November 2016 | 4 reconstruction information sessions, one held at each Council region<br>A review of the 'Total List' showed that of the 93 homes lost, only 15 families had NOT commenced the rebuilding process |
| Capacity Building for Economic Recovery | June 2016-<br>January 2017 | Identified skill gaps in community and offered trainings to upskill the community<br>2 Grant writing workshops in Tarlee and Kapunda (28 participants from 13 organisations trained to write grant applications in the first and 22 participants from 11 community groups in the second)<br>Business Continuity Planning training investigated. An online template was made available to various agri-business groups |
| MensWatch | April 2016 | Award winning program that developed a sustainable network of men committed to supporting mental health of other males in the community<br>groups of 20 men recruited to participate in the MensWatch training<br>2 courses consisting of 3 evening sessions per course held |
| Stars in Our Backyard Campaign | December 2016 | An initiative aimed at the community sharing their stories of heroes during the recovery period<br>The community of Wasleys had maximum participation across all of the townships across the fire scar |
| Wasleys Post Office Official Reopening | April 2016 | Despite the post office only partially re-built, it was a gift for the community |
| Commemorative Book-Reflections on Pinery | April 2017 | Book launch to form part of the final recovery event<br>Scopes community activities during the recovery |
| Reflection with Gratitude | May 2016 | Event at Wasleys Town Hall<br>Launch of the reflections on Pinery book<br>Community function to acknowledge all the work and support of people involved in the recovery |
| Poultices and Grains Workshop with Simon Bryant | July 2017 | Organised by the Country Women's Association-Adelaide Plains Branch<br>Workshop on encouraging the use of locally produced farm products |

| Program | Timing | Description |
|---|---|---|
| Town Venue Vibe | March 2017 | Communities submitted EOIs identifying works they wished to pursue<br>EOIs were prioritised by the PFRCAG<br>Hamley Bridge Town hall secured $ 21,000 for repainting Town Hall<br>Wasleys Community Group secured $ 15,000 from Foundation Barossa Pinery Fire Fund for installing ACs in town hall<br>Owen's Men;s Shed received $ 5,000 for upgrading their facility<br>New oven installed in Hamley Bridge Sport and Community Complex<br>Tarlee Community Hall and Services Association received a ride-on mower to maintain vegetation in open spaces especially when council services are not available |
| Kick in for Pinery-Fire Water Tank project | | Local sporting community raised money to purchase tanks for storage of water for fire fighting<br>Pinery, Owen, Locheil, and Hamley to have new tanks installed<br>SA Water to do the first fill for each of the tanks up to 25,000 L free of charge |

Source: Pinery Fire Community Recovery Fund Fifth Quarter Report (March 2017)

# Appendix 5: Description of relative importance analysis

A relative importance analysis using R software[15] allowed us to examine whether different aspects of the recovery disproportionately contributed to survey respondents' overall satisfaction with recovery. This analysis allows one to examine the proportional contribution of individual predictor variables towards variance in the criterion variable[16]. It does this by accounting for the contribution a predictor variable makes to a criterion both uniquely and in combination with other predictors. A multiple regression is unsuitable for doing this, as multicollinearity between predictor variables does not allow for the partitioning of variance. Relative importance analysis circumvents issues associated with collinearity between predictors through orthogonal transformations.

In this instance, the criterion variable is overall satisfaction with recovery, and the predictor variables are:

- I feel I have emotionally recovered from the fires
- I feel I have physically recovered from the fires (i.e. clean up and repairs)
- I feel I have financially recovered from the fires
- I feel I would like ongoing support to continue to recover from the fires
- The support I wanted was available at the time I wanted it
- Public and private green spaces, gardens, and parks have been restored
- I feel better prepared to emotionally cope with another fire or natural disaster than before the 2015 fire
- My local community has been supportive during the recovery period from the fires
- I feel better prepared to cope with the clean-up/repairs associated with another fire or natural disaster than before the 2015 fire
- The community is more supportive as a result of the fire
- As a community we are able to support each other to continue to recover from the fires
- I am concerned about my ability to respond to future disasters
- I feel better prepared to financially cope with another fire or natural disaster than before the 2015 fire

The original predictors ($X_j$) are orthogonally transformed ($Z_{XK}$), and standardised regression coefficients ($\beta_K$) are produced by regressing the criterion ($Y$) onto the new orthogonal predictors. These coefficients are combined with the standardised regression coefficients obtained by regressing the original predictor variables ($X_j$) onto the orthogonal predictor variables ($Z_{XK}$). This allows for the rescaling of regression coefficients back to ($\lambda_{jk}$) original variables. Estimates of relative importance for each predictor variable are then produced.

[15] Development Core Team (2006). R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0, URL http: //www.R-project.org/.
[16] Johnson, J. W., & LeBreton, J. M. (2004). History and use of relative importance indices in organizational research. Organizational Research Methods, 7(3), 238-257.

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